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ABSTRACT

Organizing for the future is the goal of the Year 2000 projects described in this prospectus prepared for the Rhose Island Bicentennial Commission. The prospectus includes a reationale for futures planning and an overview of efforts already underway at all political levels. Descriptions of state level efforts include California's Tomorrow Plan, based on systemized alternatives for California's future; Hawaii 2000 where high level state commitment and citizen participation have inspired other state programs; and Washington 2000 where identification of issues and options in futures problems is the main objective. The proposed Rhode Island project consists of five parts: (1) a model of vital activity at the state level, (2) citizen access to the model through computer and board games, (3) continuous sampling of public opinion, (4) an indicators system for social reporting, and (5) communication of the first four parts. The efforts described with the help of charts and models suggest six steps in a general strategy for accomplishing futures planning at the state level. (JH)

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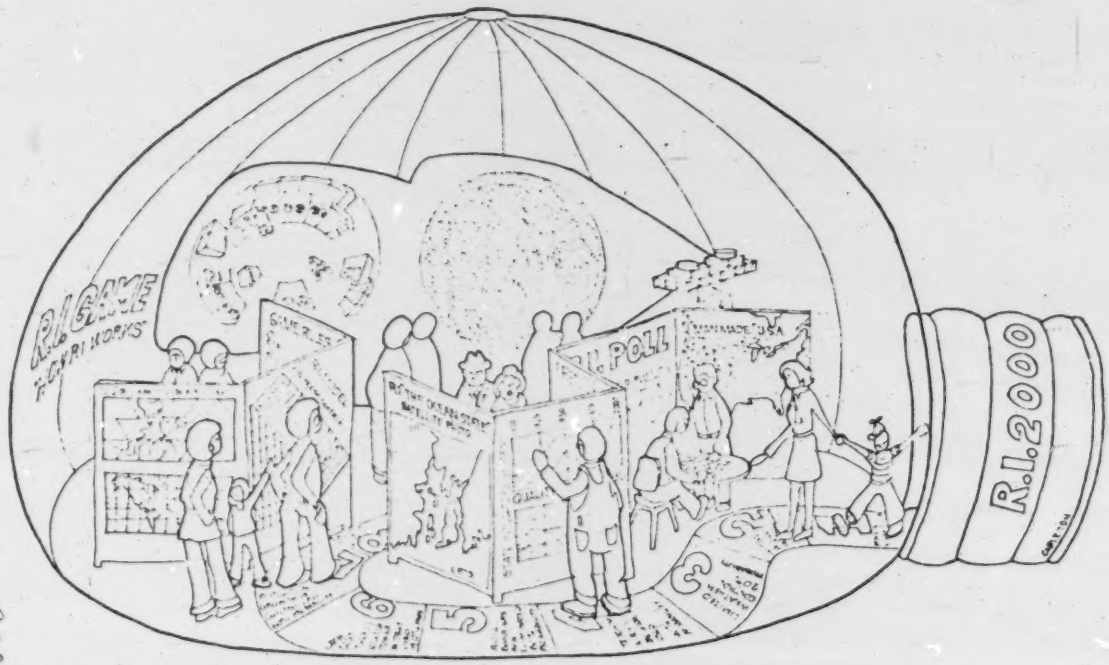

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Earthrise Rhode Island 2000 ER-3 Abstract

Wolf, C. P., Tom Carleton and Russ Kolton. "Rhode Island 2000." 51 pp. Itek. 20 February 1973 (Draft). Earthrise Document ER-3. (Abstract by CPW)

1. **The Rhode Island 2000 Project is concerned with the quality of life in Rhode Island today and the next ten thousand days toward the Year 2000. The Project asks three general questions about present and future conditions: How bad (or good) is it now? How much better can it be? How do we get there from where we are now? The Project proposes--not instant answers, but a way of asking the questions. The emphasis is on seeking long-range solutions to long-standing problems. The principal objectives of the Rhode Island 2000 Project are:**

    1. **To systematically examine the future consequences of present social and environmental problems in Rhode Island and the world.**
    2. **To educate the general public as to the interrelationships between various problems so that average citizens will better understand alternative courses of action and their ramifications in respect to a particular national, regional or local problem.**
    3. **To provide a means by which the average citizen can voice his/her opinion about an issue and feel that he/she can thereby influence its resolution.**

    Similar efforts are underway in "Hawaii 2000," "Washington 2000" and California Tomorrow. We propose that Rhode Island join with them in expanding the horizons of people in our state, nation and world towards the Year 2000.

    "The Rhode Island 2000 Project applies futures research, education and design towards increasing the welfare, enjoyment and enrichment of our people and our state. It consists of five interrelated parts: (1) The Rhode Island Model, (2) The Rhode Island Game, (3) The Rhode Island Poll, (4) The Rhode Island State Indicators System and (5) Rhode Island Design Systems. In combination, these provide means for a constructive and creative advance towards the future"

2. Future: Time frames for encompassing the future extend from the proximate future of the near seventies to "the next million years." Settling on the Year 2000 as a guidepost for the future has the advantage of more definite predictability coupled with design possibility. It is a realistic projection for beginning to attempt long-term solutions to long-standing problems.

    Another reason for previsioning the future in this time frame is the millennial expectation and hope for a dramatic era change. As with the Year 1000 this prophetic character is tinged with apocalyptic overtones; the choice before us is one Fuller starkly posed: "utopia or oblivion." (2)

3. Future: Operationalizing the "Year 2000" idea requires spatial as well as temporal location. The world future is lodged on all levels of the world system, from "Mankind 2000" to "London 2000," but most attention has focused on state levels (despite the useful contribution of the Commission on the Year 2000 in the U.S.). Of these, California, Hawaii and Washington's Year 2000 plans are the most imposing. (3-6).

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4. California: The California Tomorrow Plan offers a choice of alternative futures, California One (a direct extrapolation to the Year 2000) and California Two (the preferred state). Starting from the present, California Zero, the alternatives are contrasted and means suggested for phasing in Two. This means substituting comprehensive and coordinated planning for piecemeal and fragmented approaches to coping with sources of major disruption. For California Two, regional governments are instituted, a State Planning Council is formed to devise a comprehensive California State Plan, and executive and legislative performance are measured against the standards it sets in policies regarding population, zoning, resource consumption patterns and the like. California Two, when and if it is achieved, will not be utopia, but the California Tomorrow Plan is well-conceived for attaining a higher goal of "survival with amenity" than the present tendencies allow (7-13). It is a worthy precedent, recently adopted by MASSACHUSETTS TOMORROW (14).

5. Hawaii 2000: The highest level of statewide commitment to the future is to be found in Hawaii and its Commission on the Year 2000. A wide variety of futures-oriented activities involving the participation of hundreds of its citizens is one conspicuous strength (15-16).

6. Washington 2000: A recent and impressive entrant in the race towards the Year 2000 is that of Washington 2000, initiated by the Evergreen Chapter of the World Future Society. It features intense citizen participation and widespread media use, backed by an inventory of state resources. One worthwhile proposal was establishing a "Washington State Futures Institute" to operate a "planning and decision information system." Identification and communication of futures issues and options is a major objective (17-22). "Seattle 2000" matches and complements this aim on the city level (23).

7. Future: Organizing the Year 2000 idea has followed a typical course from initiative and political endorsement through conferences, commissions and task forces, leading to recommendations for legislative action. Conceptualization is less well advanced, and participation remains spotty despite much rhetoric.

8. Rhode Island 2000: The Rhode Island 2000 Project consists of five coordinated parts: (1) the Rhode Island Model, telling "how the world works" on the state level, what the preferred future states of the state are and what the alternative means for achieving them (27-30); (2) the Rhode Island Game, a "delivery system" for the Model, providing citizen access to its workings through both computer and board game treatments (31-35); (3) the Rhode Island Poll, continuously sampling a wide range of issues and options and reflecting a broad base of public opinion and information (36-38); (4) the Rhode Island State Indicators System, a social reporting service for collecting and analyzing data on the "state of the state" (39-40); and (5) Rhode Island Design Systems, a communications program to expose and experience the general public and specific subgroups in the purpose and progress of the entire Project (41-44). Each of these parts is spelled out in considerable detail, with examples taken from other places and uses of the techniques involved.

9. Rhode Island 2000: "All the foregoing is frankly speculative. 'Rhode Island 2000' does not now exist, except as an idea. We think it is a better idea for now and our future. That is wishful thinking unless others share in and improve on our vision. We propose--not answers--but a way of asking the questions. . . . The answers must come from us all"

Earthrise Rhode Island 2000 ER-3

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THE YEAR 2000 IDEA

Time Frames

2000 A.D. is not the only year for fastening onto the future. By the Chinese calendar it is already 4671 (or perhaps 4672). On the other hand, we have just entered Year XV of the space age. If we stick with the Gregorian calendar, futurist projections range out ahead from the near seventies to "the next million years" (Darwin 1952).* Intervening are such landmark years as:

1976	"1976: Planning the American Future" (American Academy of Arts and Sciences)
1984	Calder (1965)
1990	Waskov (1972)
1994	Theobald and Scott (1972)
1999	Waskov, again (1968)
2000	Bell (1967), Kahn and Wiener (1967), Jungk and Galtung (1969), Fuller (1967; Farrell 1967), many others
2001	Arthur C. Clarke
2018	Foreign Policy Association (1968)
2030	Birkenhead (1930)
2100	Forrester (1971)
2500	Beckwith (1968)

With this imposing array to choose from, settling for the Year 2000 might appear somewhat arbitrary. True, it is about the span of a single generation--but then, so are 1999 and 2001. Futurist James Dator (n.d.: 7) offers this rationale:

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*Complete bibliography of the works cited in this document appears at the end under References. Numbers in parenthese are year of publication and page.

> Immediate futures are relatively easy to predict but difficult to design and alter, while distant futures are very difficult to predict but much easier to design. It is partly for this reason that a target date of "The Year 2000" makes so much sense for current futuristic activities: twenty-five to thirty years in the future is close enough to the present to enable us to have some notion of its general contours and to feel that we or our loved ones will be around to live in that future. Yet twenty-five to thirty years is far enough away for us to imagine that we will find solutions to the pressing problems of the present.

The Year 2000 is indeed a realistic projection for serious efforts towards solving the urgent and abiding problems of poverty, the cities, social equality, and others high on the American agenda. Any lesser span would succumb to our penchant for "instant" solutions to long-standing problems. "Looking ahead," Bell (1967: 644) foresees, "we realize that the rebuilding of American cities, for example, entails a thirty-five-year cycle, and one can rebuild cities only by making long-range commitments."

Apocalypse or Millennium?

"Much of the attention given the year 2000 is due," according to Bell (1967: 640), "to the magic of the millennial number." Coinciding with the turn of the century, the turn of the millennium portends the dramatic closing of one era and the opening of another. Expectation is attuned to some momentous change, but the nature of that change is in question. The year 1000 likewise was fraught with chiliastic visions of the Apocalypse. Movements of thought in our own time have viewed the Year 2000 with similar apprehension. As well as religious fundamentalists, working scientists have conjured visions of Doomsday, if not the Judgment Day to follow. John Platt (1969: 1116) renders this gloomy prognosis: if humankind manages to survive the seventies it

> . . . has only to look beyond them to the monsters of pollution and population rising up in the 1980's and 1990's. Whether we have 10 years or more like 20 or 30, unless we systematically find new large-scale solutions, we are in the gravest danger of destroying our society, our world, and ourselves in any of a number of different ways well before the end of this century. Many futurologists who have predicted what the world will be like in the year 2000 have neglected to tell us that.

Yet there is another side to this visioning. As Focillon (1969: 50) divined the Tenth Century, "the Apocalypse is not necessarily linked with millenarianism; on the contrary, it necessarily tends to break that link. . . ." If the modern millennium presents a utopian vision, however, equally it confronts us with a vital choice. In R. Buckminster Fuller's phrase, it is a choice between "utopia or oblivion." Choosing the former then becomes the business of the future.

OPERATIONALIZING THE YEAR 2000 IDEA

As Dator implies, focusing on the Year 2000 renders the future more definite and definable. Still higher resolution is needed to infuse the idea with positive content and actual concreteness, and to impart to our worldview an operational philosophy for "applied futuristics." By grounding it in our immediate present and recent past experience, we seek to make the future actionable. The occasion for action is at hand. Bell (1967: 639) writes, "the world of the year 2000 has already arrived, for in the decisions we make now, in the way we design our environment and thus sketch the lines of constraints, the future is committed."

Once time reference has been established, it remains to locate that future in spatial dimensions as well. Jungk's conception of "Mankind 2000" (Jungk and Galtung 1969) conveys the dual trends of heightened interdependence and increased universality. The evolving planetary situation is confirming the metaphor of "Spaceship Earth" with literal meaning. Considering these global trends, we can safely predict the effective future in the Year 2000 will be a world future.

Despite this universal tendency towards "globalization," the world future is generally more approachable on subordinate levels of the world system. Thus we can view the future from the vantage point of world regions, as in Plan European 2000. On the level of national societies, Tugwell (1968) envisions "U.S.A. 2000," and Jose Villegas, "Peru 2000." National regions furnish the setting for Billy Rojas' Appalachian Futuristics Project, and briefly "Northwest 2000" which seems now to have been submerged in the Washington 2000 Project. Indeed, it is on the state level that the Year 2000 idea has sparked greatest interest and application. It can be carried even farther though, to the level of urban communities, as in London 2000 (Hall 1963), and subcommunities.

The Commission on the Year 2000

In 1964, about the time Jungk was organizing "Mankind 2000" in Europe, social psychologist Lawrence K. Frank addressed a memorandum to the President of the American Academy of Arts and Sciences:

> As large-scale transformations occur, our customary designs for living, our homes and family life, our interpersonal relations, and our social, economic and political activities will require greater or less modification, if not supersedure. It is likely that our traditional morals and ethics and our American "character-structure" will undergo far-reaching and often radical changes. . . .
>
> If we are to maintain a free social order in the face of the discontent and anxiety [we] will probably provoke, we must attempt the Promethean* task of renewing our traditional culture and reorienting our social order as a deliberately planned process. . . . (quoted in Bell 1967: 647)

*The image was aptly chosen; two years earlier Feinberg had begun the "Prometheus Project" in search for long-range goals (1969).

From this initiative emerged the Commission on the Year 2000, directed by Daniel Bell. As he describes it (1967: 657), "The simple impulse behind the idea of this Commission was the question: Is it not now a fundamental responsibility for a society as interdependent as this one to try to engage in some form of systematic anticipation, some form of thinking about the future?" The problem of the future he perceived as that of "defining one's priorities and making the necessary commitments. This is an intention of the Commission on the Year 2000" (p. 646). Its deliberations led into four kinds of considerations: (1) the identification of concrete problems of the future, (2) the philosophical implications of these issues, (3) the underlying structural changes which may come about (e.g. the "post-industrial society"), and (4) the nature of the planning process itself (pp. 657-58).

On the premise that the future begins in the present, the Commission sought means "to indicate how the future consequences of present public-policy decisions, to anticipate future problems, and to begin the design of alternative solutions so that our society has more options. . ." (p. 639). This charge stimulated far-ranging, often floundering, discussions and produced useful contributions by "working parties" in specialized areas such as government (Perloff 1971). Throughout the Commission's gaze wavered between alternative futures for America and the world future. Six years later it is clear that the Commission set important new directions for futures research, deserving and demanding of further extension and consolidation. Just as clearly, there has been a reluctance to advance broadly on the national level, and it has fallen to the several states to struggle ahead into the future.

State 2000s

If we concentrate on futures interest at the state level, it is because here thinking and planning for the future have progressed the farthest. At that, they have yet to progress so very far. In some, like Iowa, the Year 2000 idea is only a distant glimmer; in others still less. Ronald Lehr (1972: 5) summons the future of a "Colorado 2000" in this call:

> Colorado, as well as other states . . . should try to establish long range goals by making the year 2000 a target date for planning. Here in Colorado the time is ripe for the governor and legislature to select a large and representative Commission to establish goals for Colorado for the Year 2000. The Colorado Commission on the Year 2000 should investigate Colorado's future not by taking testimony in the State Capitol basement from middle aged white males (as the present system of hearings is practiced) but rather by going into every town and city in the state to search the heart and mind of Colorado's people for their most cherished dreams.

Impatient for the Colorado future to commence, Lehr (pp. 7-10) submits his own "sample scenario" of long range goals for the Year 2000:

> Goal One: Population Control
>
> Grounded in the physical reality that no system can grow at exponential rates on our finite globe forever, we might make our first goal a stable or declining population for Colorado by the Year 2000.

Goal Two: A Growing Non-Polluting Formation Based Economy

Our second goal for Colorado 2000 might be a non-polluting economy growing not in quantity and consumption and waste, as is the present pattern, but instead, on growth in quality and the enrichment of human life.

Goal Three: Free Statewide Public Transportation

Goal Four: We Learn to Love the Land

By Year 2000, we will have disabused ourselves of the vain and fatuous notion that individuals can really own the land. Land value speculation will have long ceased, and the land will be recognized as a public trust and as a public utility.

Goal Five: Young Leaders

Decision making power might well be put in the hands of men and women at the height of their intellectual ability and enthusiasm, rather than remaining the preserve of the geriatric few.

Goal Six: Continuing Education

To foster a willingness to deal with continuing change, intellectual growth should continue throughout life, aided by recurring periods of education. Every year a fifth of the population might have the option of a sabbatical sponsored by the other four-fifths.

Goal Seven: Serial Careers for Generalists

We might release a flood of innovation and improvement if we encouraged people to take up the challenge of education for a new career, rather than clinging to the security and boredom of a single life-long job.

Goal Eight: Planning to Cope with Change

Finally, we must prepare to withstand the blinding pace of change Year 2000 will bring. Multiple options remain to us now for planning to withstand change. But we must begin our discussion of them soon, before change sweeps our options away.

It would be wrong to suppose that the future is flourishing in many of the several states, and it is not a little ironic at a time when the nationalization of politics and policies is an accomplished fact that states themselves undertake this initiative. For however we think to structure the future, its aspects and parts cannot be understood in isolation from one another. Nevertheless we can imagine a growing and branching interstate compact or network of 2000s federated into a national 2000, just as a similar process might come to comprise the comprehensive program for the world future in the Year 2000. For now we will confine ourselves to those states venturing farthest into the future--California, Hawaii and Washington.*

*Is it only coincidental that future-orientation is centered in these Far Western states?

THE CALIFORNIA TOMORROW PLAN

The most advanced and ambitious state 2000 plan is perhaps that of California Tomorrow. Well it might be, for as Bronson (1968: 10) observes, ". . . California has led the rest of the world into the age of mass affluence and has become standing testimony to man's infinite capacity to befoul and destroy in the quest for an ever-higher standard of living." The California Tomorrow Plan offers a choice of alternative futures, California One or California Two, starting from the present state of the state, California Zero. After inventorying present conditions, it contrasts between California One (a direct extrapolation to the Year 2000) and Two (the preferred state), then proposes some ways for attaining the Two instead of the other. The report (Heller 1972) follows this outline:

> California Zero: a summary of the major problems and disruptions which beset California today; a description of our traditional method of attempting to solve problems; and a sketch of an alternative way which shows considerable promise.
>
> California One: a picture of the kind of California that will surely come to pass if the traditional California Zero way of solving problems continues into the future.
>
> California Two: a proposal for the alternative way of solving problems; an outline of what government and private enterprise would have to do to carry out this alternative; a view of what life might be like in California Two.
>
> Comparisons of California One and California Two: a general summary of the two Californias, with particular attention to comparative costs.
>
> Phasing In--California Two: a list of specific actions which can be taken to bring California Two into being.

California Zero

Present-day California is beset with major disruptions occurring in two main categories, "environmental resources misuse" and "human resources misuse" (p. 9). Land and water use are the main subcategories under the former, "structures" or institutions and people under human resources. Twenty-one (21) specifications of California's problems fall within these general areas (see Fig. 1). Each of the problems is further analyzed and two alternative ways of dealing with them are outlined. The traditional way, California One, attacks problems piecemeal, with little concern for their interrelatedness. Consequently it fails to get at the source of the problems, and "solutions" only tend to worsen them. In California Two the stress falls on comprehensive planning which seeks out relationships among problems and attacks common underlying causes rather than mere symptoms. The example of agricultural land depletion shows this contrast between fragmented and coordinated approaches (Fig. 2).

California One

Discussion of this alternative model for California in the Year 2000 underscores the contrast:

21 Major disruptions

Figures 1, 2, 3, 4, 5, and 6 from The California Tommorow Plan, William Kaufmann, Los Altos, Calif., have been removed to conform with copyright laws.

Fig. 1

> In California One, problems of social and environmental disruption are still met--if at all--on an individual basis as they become visible and as the public becomes alarmed about them. Politicians pay lip service to "coordination" and "comprehensive planning," but no integrated framework exists for making public policy. Furthermore, there are no central, clearly stated, duly adopted public policies or goals; there is no shared vision of what California could become. Private organizations and governmental agencies continue to establish their own policies, whether or not they conflict with the general public interest. Frequently, programs conflict directly with each other, and the impact of one on another is ignored. (p. 24)

Both public and private sectors distort the problems they recognize and the solutions they conceive. Typically the governmental response is creation of single-function agencies charged and equipped to deal with only a small segment of the problem; such narrowness of purpose and aim has the effect only of distracting attention and diverting resources from real needs and provisions. The problem reappears in new guise, unsolved and often intensified. Nor is the private sector more responsive and responsible. Largely it serves its own special interests, with scarcely the pretext of acting for the general welfare. Capacity to govern and quality of life suffer accordingly. This depressing picture is "California tomorrow" if present trends and tendencies continue unabated and unaltered.

California Two

A brighter alternative future depends on recognizing the four underlying causes of disruption and matching them with "driving policies" that will yield the overall goal of "survival with amenity": "To provide for personal fulfillment within an amenable environment." The four underlying causes are:

Problems get worse unless responses deal with causes

Fig. 2

1. Lack of individual political strength (arising from the structure and process of government).

2. Lack of individual economic strength (inadequate incomes, inequitable access to jobs, education, services, amenities).

3. Damaging distribution of population (both in numbers of people and in their location).

4. Damaging patterns of resource consumption (numbers of people, and the way they consume resources).

Using "systems analysis," a matrix is constructed with locates the 21 problem specifications at the intersections of these four basic causes (Fig.3), and a systems approach is adopted to fashion major policies for dealing with them (Fig.4). These major policies are connected together in a comprehensive "California State Plan," sections of which formulate policy appropriate to the

Four underlying causes of disruption emerge from the matrix of direct causes

Fig. 3

California Two removes problems by grouping policies to deal with causes.

Fig. 4

four underlying causes. A fifth, "budget section" insures both long-term financing of programs to implement the policy recommendations and also short-term (annual) increments by which programs will operate en route to the Year 2000.

The political machinery called for to realize the benefits of California Two is, first, a State Planning Council appointed by and responsible to the governor and confirmed by the senate. This Council "prepares and annually updates a comprehensive plan, called the California State Plan, which specifies long-term and short-term state goals, policies, programs and budgets." To ratify such planning, programming and budgeting activity, the governor proposes enabling legislation. Legislative and executive performance are measured against fulfillment of the Plan at all political levels.

Although this is a California State Plan, the federal government plays an important role through revenue-sharing and establishing national policies and standards for meeting them. Implied are substantial changes in national as well as state policies. The creation of a Federal Conservation and Development Bank is urged for long-term financing. Federal assistance in welfare programs must be maintained at a high level to forestall an influx of population. Moreover, the operation of federal agencies within the state must be coordinated and harmonized to its Plan. In order for California to benefit, everyone must benefit.

On the state level, a whole new echelon of regional governments--ten of them--is prescribed. Not only does this conform to the ecological contours of watersheds, airsheds and bay areas, it is vital to the political control of development that spills across municipal and county boundaries. At the same time, regional governments must balance rural and urban interests, giving equitable representation to both. The Plan must be faithfully executed on local levels as well, and interpreted there with due regard both to local conditions and overall goals. Full citizen participation and approval is demanded on all levels; thus planning and democracy become mutually supporting rather than opposing.

Comparison of California One and California Two

Strengthened local control as a feature of California Two contrasts with strong centralized control in a California One driven to desperation in its futile attempt to cope with growing problems (Fig.5). Projected cost comparisons also reveal the comparative advantage of California Two, in land values, transportation and health. More detailed comparisons of the two Californias are given in Fig. 6 In general,

> The California Tomorrow Plan describes two futures for the state: California One and California Two. California One, in which the quality of life becomes seriously impaired before the year 2000, is a logical consequence of today's methods of dealing with environmental and social disruptions. In California One, problems are met, in general, through separate, disconnected programs. There is no cohesive strategy for solving them. California Two attempts to deal with disruptions in a systematic way through a process of comprehensive state and regional planning. (p. 109)

Phasing In--California Two

No fewer than nine basic "activators" can be employed to promote the desirable future conceived in California Two:

Characterizing the two Californias: government control

Fig. 5

1. Take emergency action.
2. Adopt basic policies.
3. Set up state planning and budgeting in one strong agency.
4. Establish regional governments.
5. Establish community councils.
6. Make new election laws.
7. Use modern fact-gathering techniques.
8. Urge federal action.
9. Make the commitment.

Although each can operate somewhat independently of the others, and in any particular order of activation, "together they constitute the essentials of a complete system capable of operating effectively" (p. 104). Thus, massive political change is the condition of California Two's success. Yet even its complete success is relative; population is stabilized but not optimized, for instance. California Two is not utopia. It is feasible, workable and compelling, however. The California Tomorrow Plan is an imaginative and constructive step towards the Year 2000. As such it is a future model worthy of emulation by other states.

Earthrise

Massachusetts Tomorrow

One state, Massachusetts, has already sighted its future on the California plan. Its MASSACHUSETTS TOMORROW proposal (1972) is premised on six major assumptions: first, that economic stagnation and deterioration of public services are intensifying, and that "No credible, comprehensive, long-term plan to reverse these trends exists" (p. 1)

2. At present the public generally has neither the awareness nor the will to call for remedial action appropriate to the seriousness of the problem.
3. Fundamental reforms are required to achieve the degree of equitable distribution of wealth necessary if we are to have a harmonious society (p. 2).
4. Piecemeal attacks have merely enlarged our problems and, more dangerously, created the illustion that they are being solved.
5. A basis for social and environmental harmony must be found.
6. What will be needed is a step-by-step fundamental transformation of society and its governmental instruments if violent disruptions or repressions are to be avoided (p. 3).

The steps broadly contemplated in MASSACHUSETTS TOMORROW are (1) preparation of a Sketch Plan setting forth briefly the social and environmental goals for Massachusetts within the context of national and global trends; (2) public discussion of the Sketch Plan, exploring present and future needs and policies for satisfying them; and (3) continuous improvement of the Plan, incorporating citizen feedback, formulating policy recommendations, and initiating sustained efforts toward their adoption.

In greater detail, Phase One includes five steps: (1) "The World and Massachusetts Today," (A) "a succinct review of the best current estimate of the world social and environmental predicament as it relates to Massachusetts today" and (B) "an assessment of the current status of social justice and environmental quality in the Commonwealth"; (2) "Massachusetts Unplanned," trend projections to 2000 and beyond in the critical problem areas of economic development, energy, land use and housing, water and transportation; (3) competing team designs between maximizing goal attainment in social justice and environmental quality; (4) "Massachusetts Tomorrow," merging the two designs in "an integrated plan projected forward decade by decade to the year 2000"; and (5) "Beginning Implementation."

Phase Two is devoted to community involvement through publicity, contacting prospective supporters, public "launching" events, and a series of six TV documentaries on "Massachusetts 2000" followed by informal group discussion and feedback, and lastly, the presentation of issue-oriented community forums across the state. Phase Three, "Implementation," is scheduled to begin late in 1974. At that time the change strategy will be decided between public and political lobbying or some combination of the two. It is recognized that "The imperatives of our situation are likely to demand reforms too radical for many established interests used to treating only the symptoms of our malaise" (p. 15) and, moreover, that "the kinds of changes necessary will not come easily and may not, for the most part, occur at all for many years to come" (p. 16). Nevertheless, the process of public involvement is seen to be a significant benefit, as much as its outcome. MASSACHUSETTS TOMORROW submits an 18 months budget for the tidy sum of $573,600.

HAWAII 2000

If California Tomorrow's incorporation as a private foundation in 1966 anticipates other statewide movements, Hawaii can rightfully claim priority as the first state to look toward 2000 as a state. On 20 June 1969 John A. Burns, reflecting "the thinking of many of us that a serious effort should be made now to assess Hawaii's future economic, political, cultural and social systems and to identify the objectives that are desired and the action programs necessary to reach these objectives," ordered the creation of an advisory committee to plan and organize the first Governor's Conference on the Year 2000. Chairman George Chaplin explained the charge this way:

> We have the technology for the future. What we need are the dreams. What kind of Hawaii would we like to see 10, 20, 30 years from now--and how do we get there? What are the alternative routes?
>
> Since the future grows out of the present, what are the probable long-range effects of our present policy-making and decisions? Are our policies and decisions moving us in the direction we really should be going? And if they are not, what are the other choices open to us?
>
> These are the kinds of questions I see the conference addressing itself to.

The Conference was held 5-7 August 1970 at the East-West Center in Honolulu; proceedings are scheduled for publication this June by the University of Hawaii Press. Subsequently the first state Commission on the Year 2000 was formed to continue the work of the Conference; it has now submitted its second annual report to the Governor and Legislature of the State of Hawaii and projected its own future for another six years "in a manner compatible with PPBS" (planning, programming, budgeting system; page references below are taken from this report). The Commission defines its role in these words (p. 2):

1. What the Commission is aiming for: To bring about such real, visible and significant change as seems desirable in Hawaii's society and institutions.
2. Why the Commission has this aim: Because it believes that the choice facing Hawaii's people is either to act now to seek to fashion the hurrying future or to be overwhelmed by it, and because it firmly believes in the ability of Hawaii's people to help shape or alter their destiny.
3. Who the Commission is concerned about: All the people of Hawaii, not particular elites or interest groups or socio-economic strata or organizations.

Based on these assumptions, it states three major goals (p. 3):

1. To create, sustain and intensify an awareness among Hawaii's people that our future may be and is being shaped in several different ways, and how this may occur and is now occurring.
2. (a) To promote and maintain the active participation and involvement of Hawaii's people in a Statewide effort to depict, assess and establish political, economic, social, cultural and enviromental goals for Hawaii;
   (b) To devise and recommend legislative, administrative and citizen action to accomplish these goals;
   (c) To assess, evaluate and review periodically these goals and the action being undertaken to accomplish them.

3. To promote, assist and coordinate programs, activities and plans of individuals and organizations, whether public or private, directly concerned with the future of Hawaii.

Futures awareness in Hawaii is heightened by the Commission's sponsoring of numerous addresses and frequent conferences. It has produced radio and television programs and series. Not coincidentially, since its Chairman is the Editor of the Honolulu Advertiser, extensive newspaper coverage has been provided.

Hawaii 2000 is notable as well for its broad base of public support, from the grass-roots to the Governor's Office. Its activities involve literally hundreds of Hawaii citizens, from high school students to high political officials. An experimental project in community planning and futures study aims at engaging high school students in the planning efforts in their communities and providing them "an opportunity to formulate and advance their own ideas of the possible futures they prefer" (p. 7). "Groups of juniors and seniors at three high schools are now examining their communities in terms of its physical environment, its social characteristics, and the needs and possibilities of people living there" (p. 8). Further organizational strength is gained in fielding a number of specialized task forces.

Starting with a $50,000 appropriation from the Legislature in 1970, Hawaii 2000 has mobilized considerable professional expertise as well as voluntary participation. A full-time executive director has been hired, and the commitment of $60,000 in additional funds secured from the Chamber of Commerce of Hawaii, corporations and labor unions for a project on "Alternative Economic Futures for Hawaii."

> As to mechanics, it is envisioned that a number of task forces will be named in early 1973 in specific fields. Each will develop a probable future in its field, an intolerable future and a utopian future.
>
> The reports of these task forces then will go to three teams, each of which will design from this information what it considers to be the most desirable, feasible overall future for Hawaii. In the final phase, each of these teams will draw up an action program, in public and private sectors, needed to begin to make its chosen future a reality. (pp. 13-14)

A general conference will then review these findings and make specific recommendations for desirable action on State and County levels and in the private sector for purposes of public policy formation and private decision making.*

Another distinction of Hawaii 2000 is the direct impact made on other states in seeking their own futures. Washington and Iowa are but two among many who have drawn from the inspiration and experience of Hawaii 2000.

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*One such recommendation is already indicated: a permanent Commission on Population Stabilization.

Washington is the most recent state entrant in the race to the Year 2000. The concept of Washington 2000 has a short history, going back to 1971 when, "out of a concern for the quality of life in the future of the state and the processes which are shaping that future," the Evergreen (Seattle) Chapter of the World Future Society was formed. Their concern was equally felt in the Governor's Council on Human Affairs. With this encouragement the Chapter "decided to seize this unique opportunity and develop a model for the consideration of alternative futures through a system of statewide participation" in the formulation of policies affecting the future--what Toffler has called "anticipatory democracy" (Sine 1972: 5-6). Their initial efforts culminated in a Washington 2000 Planning Conference, 29-30 June 1972, and submission to Governor Evans of "A Prospectus on the Washington 2000 Project." As described in a later funding proposal, Washington 2000 objectives are:

> To increase citizen awareness concerning those issues which impact on the future and a full range of alternative approaches for resolving each issue.
>
> To create a continuing process through which citizens, individually and in groups, can participate constructively in the shaping of the future of Washington.
>
> To mobilize and effectively utilize a multidimensional statewide communications network to enable citizens, civic leaders, and public and private policymakers to engage in a cyclic dialogue regarding those impelling issues which will determine the quality of life in Washington during the next three decades.

The proposal further outlines three main components of Washington 2000:

> Issues and Options. Key issues which impact on the future will be identified as well as a full range of future alternatives for each issue. These issues and their options will be presented through comprehensive communications networks involving the mass media and other channels. The content for these will be drawn primarily from institutions already focusing on areas such as human resources, the environment, education, law and justice, health and welfare, and others to be added later.
>
> Citizen Participation. Citizen participation models will be developed and extended for use in conjunction with media presentations. They will be designed to provide citizens opportunities to consider these issues and their future alternatives and to express their preferences. The citizen participation models would be founded largely on existing community organizations within the state. The responses of individuals and groups will be analyzed and transmitted to policy-makers to aid them in the formulation of long range goals for the state of Washington.
>
> Communications Process. Communications networks are required to provide citizens with: information relating to issues and options, and with feedback capability. This will enable those viewing and discussing the issues to have an opportunity to respond in such a manner that they can reshape the issues and allow preferences to reach decision-makers. The Washington 2000 project plans to utilize the capabilities of available and developing communications networks, news media, publications, television, and educational mechanisms.

Issues and Options

These relate to the dominant need in present-day American society "for a clearly articulated statement of direction--a statement of direction which will provide goals from which our leaders can formulate policy and manage technology." Quoting Toffler, "A revolutionary new approach to goal setting is needed." While Toffler advocates democratizing the goal setting process through the creation of "social future assemblies" in every community, and Washington 2000 advocates vigorous citizen participation their first resort was the usual one of relying on experts to identify problems and possibilities in specific areas. In the area of environmental issues, for instance, Professor Russell F. Christman, Director of the Division of Environmental Affairs at the University of Washington, asserts that "Virtually all resources have currently been exploited to the point where further development will involve increasingly significant choices between gross economic development and environmental quality" (Sine 1972: 47).

> The critical need then is to devise a means of evaluating alternative goals and the different policies required to meet them before irreversible commitments are made to any one goal. Initially, such a study would have to involve a determination of the actual goals our current policies are serving, many of which are undoubtedly counterproductive to the maintenance of environmental quality.

To make this determination Christman tables a set of current policy and goal relations in the environmental area (Fig. 7).

THE GOALS OF CURRENT POLICIES

CURRENT POLICIES	GOAL SERVED
Energy Field	
Depletion allowance, import quotas, leasing of mineral rights to public land, discount prices to large users, generation of revenue (tax) from fuel sales to construct roadways for vehicles consuming fuel.	Maximize exploration, production and consumption of fossil fuel and power generation.
Water Resources Field	
Basing of municipal sewage treatment charges on water use, flat rate sewer charges, discounting water prices for large users, low interest rates for public sewer projects.	Maximize water use and encourage land development.
Population Field	
Tax reductions for dependent children, aid to dependent children, tax incentives for marriage, repression of birth control information and services.	Maximize population growth.

Fig. 7

He further examines the probable consequences of policy alternatives as they might affect one particular source of environmental pollution, automobile emissions. Less detailed analysis is given by others to issues in the areas of education, law and justice, and health care delivery.

The role of Washington 2000 in issue definition and resolution is conceived to be informational in character--"a catalyst and interface between sources of reliable information on issues and alternatives, and the channels of dissemination."

> The Washington 2000 program is intended to concentrate on key issues and options in a time frame extending thirty years into the future. This futures orientation of Washington 2000 is intended to arch over and avoid the heated controversy and polarization that characterizes citizen involvement in current problems. Efforts would be concentrated on wide-scale presentation of clearly defined issues and for each a variety of attainable options, preferably evaluated in terms of advantages, disadvantages and potential future complications. Their presentation should be as unbiased and dispassionate as possible. The aim is to foster positive discussions on programs and actions, and not to act as an advocate for particular action options.

Citizen Participation

If the Washington 2000 program is envisioned "as a continuing process by which information regarding current and future societal problems, issues and options already being generated by a host of institutions can be identified and processed for transmission through the many different communication channels to reach individual citizens, individually and in groups," an implicit goals is "the development and utilization of mechanisms by which the citizenry can actively participate in defining issues, evaluating their potential advantages and complications of alternatives, expressing their own preferences, and by supporting such preferred alternatives which impact on the policy makers in government, research institutions and other decision making roles." Along with the communications process, citizen participation is the strongest feature of the proposal. Operationally, its objectives are:

> To anticipate, formulate, assess and evaluate the consequences of present and projected policies and programs relative to environmental, technological, social, health and educational issues.
>
> To generate experimental and evolutionary models as well as to utilize existing forms of citizen participation.
>
> To enlarge the opportunities and the impact of citizens in the decision-making and governing processes, and in so doing provide an improved sense of community, increased satisfaction and reduction of tension, alienation or apathy.
>
> To initiate possible actions which will lead toward realization of preferred future alternatives.

Since it is assumed that "no single existing structure or avenue of citizen participation can satisfactorily meet the test of 'representativeness,' range of interest, or functional effectiveness in dealing with issues of choice and change," a "multi-level, multi-dimensional approach" is proposed "to deal with the substantial problems and issues generated and refined through existing and innovated channels of information and communication." Six modalities of citizen participation are conceived:

1. Community Council Model, based on existing or self-defined neighborhood and community identities.

2. Fast-Forum* Model, utilizing existing and ad hoc groupings of citizens to diagnosis, discuss and decide public issues in "referenda" fashion.

3. Collective Bargaining Model, based upon the political premise that special interest groups must contend with each other for their respective share of power and resources and that equity in the rewards of the society is thus achieved.

4. Problem-Solving Model, taking the analytic-rational or "system" approach to problem seeking, stating and solving by groups both task-oriented and technically qualified.

5. Personal Development Model, in which individuals strive to improve their abilities in creative thinking by means of the group process.

6. Consensing Game Techniques, the "future-molding" gaming of public issues devised by Stuart Dodd to facilitate "discussion with the intent to agree" on issue definitions and goal formulations.

Communications Process

Both "issues and options" and "citizen participation" intimately relate to the communications process. As the charts on "Organizational Concept" and "Operational Mechanisms" (Figs. 8,9) disclose, information systems and communications networks are the heart of the Washington 2000 proposal. While the entire proposal is heavily media oriented, of particular note is the interactive nature of communications, as in the "Citizen Feedback System." Informational capacity is further enhanced in the establishment of a Washington State Futures Institute.

Washington State Futures Institute

"In order to achieve the goals of expanding citizen awareness, increasing involvement in community-based problem solving, and coordinating a statewide effort of charting alternative futures of the state," a Washington State Futures Institute is proposed "to be a research broker, information network, and futures research coordinator receptive to the information and communications needs of government and the entire state system of communities and individuals" (Sine 1972: 63). In serving these needs the Institure would provide its services for social reporting, social indicators and interactive communications designed

> To improve the quality and accessibility of data developed to measure the performance and societal impact of governmental policies and programs by bringing the best available knowledge to bear on public policy-making;
>
> To improve the process of internal guidance and control at the policy level by providing the Governor, members of the cabinet, and their respective staffs with relevant and timely information that will assist the policy and decision-making process; and
>
> To improve the flow and fidelity of external communications from citizens to government and from government to the public.

Four basic components of the Futures Institute are distinguished: (1) research and development, (2) social applications, (3) communications and information, and (4) futures planning. Together they form a "planning and decision-information system" (PDIS).

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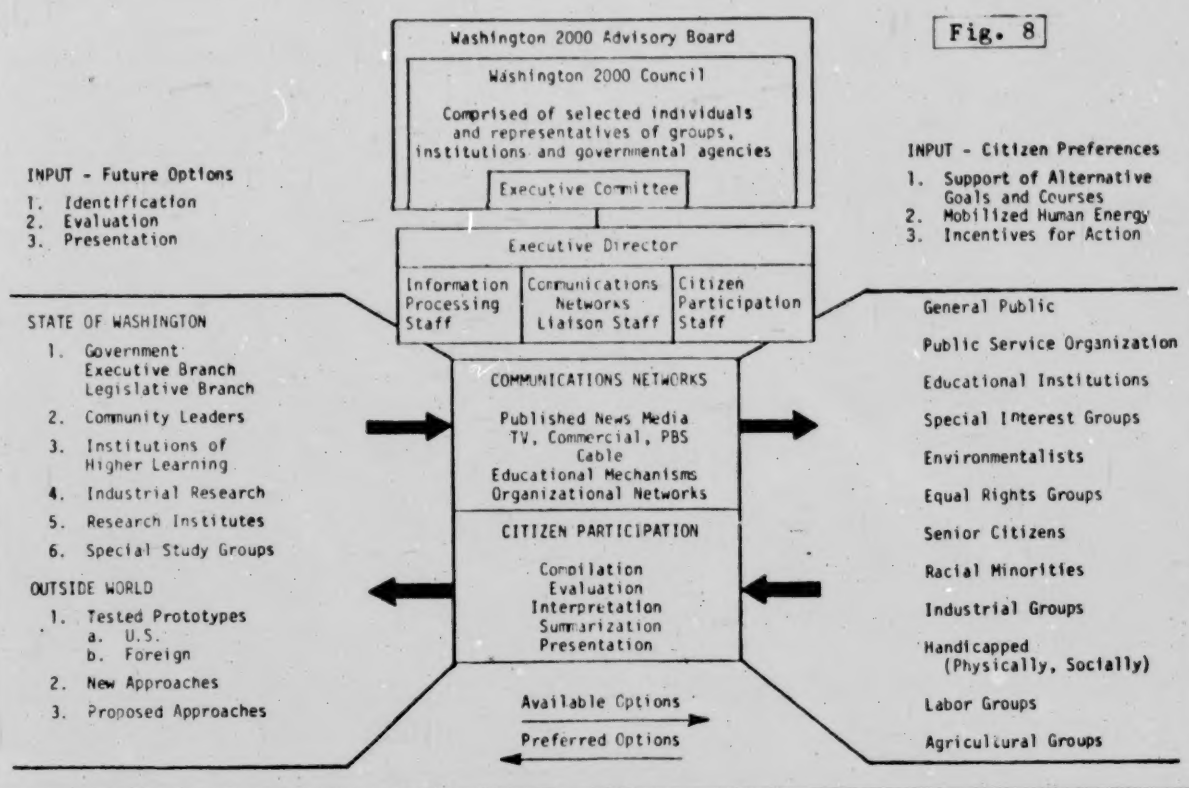
*Copyright, Richard Spady.

ORGANIZATIONAL CONCEPT

Fig. 8



Operational Mechanisms

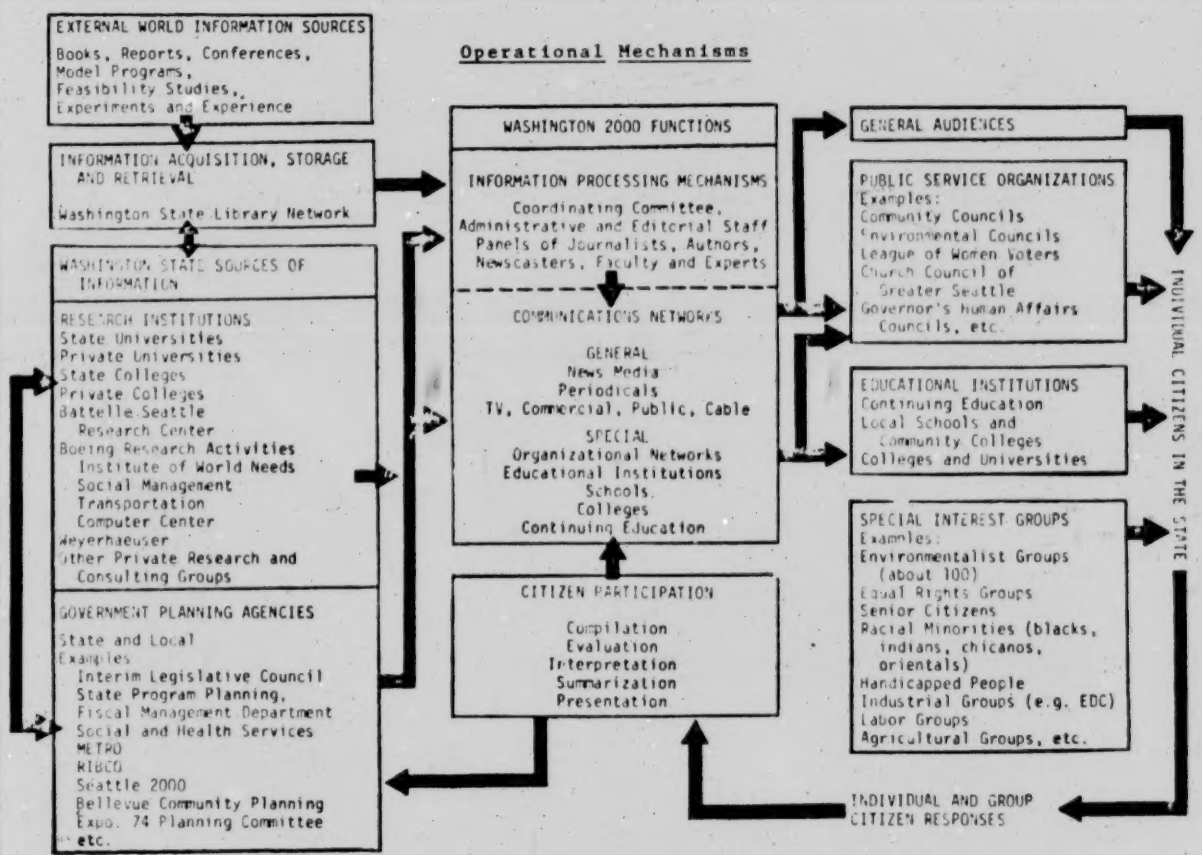


Fig. 9

> This proposed PDIS is not designed to simply improve the quality of information for a manager about his internal organizational environment. Nor is it a comprehensive data bank to archive all or even most social and economic data that agencies use in carrying out their daily responsibilities. Rather, the four-component Planning and Decision Information System is a problem-oriented instrument designed to improve the quality of knowledge and accessibility to comprehensive anticipatory planning information. It is also a process-oriented system designed to increase the base of involvement in planning and decision-making. (p. 65)

Although the Washington State Futures Institute contained in the prospectus was unaccountably dropped in the later proposal, its obvious virtues make it a likely candidate for early reinstatement. Problems of resource mobilization, organizational complexity and staff support for planning and coordination would seem to necessitate such a structure.

Funding the Washington 2000 Project

It is rightly anticipated that "the solution to substantive and normative problems requires a substantial investment of resources, talent, and attention to the first order problems of developing better social models and better social information on which to base recommendations. . ." (Sine 1972: 66). Drafters of the proposal have assiduously inventoried their potential resource base at all levels. Their mustering of support from community organizations and state institutions is highly impressive. Financial resources have been assessed from the National Science Foundation down to family foundations. As Thomas J. Kuehn shrewdly perceives, however, their greatest resource is themselves. His insistence on self-reliance is well-stated:

> The expressed purpose of the Washington 2000 project is to provide a process through which citizen awareness of alternative futures in state planning is increased and citizen involvement in the policy-making process is maximized. In the conceptualization of the project, three basic assumptions seem to have evolved: (1) a project based on citizen participation is better than contracting an expensive professional study of alternative futures; (2) the widest possible citizen involvement including existing community groups and institutions is desirable; (3) the process of consensus forming and citizen involvement is more important in affecting Washington's future than any policy which may finally be recommended. In the context of previous professional and citizen efforts in future studies, these assumptions are unique and intuitively perceptive of the process of change in society. (p. 71)

Nevertheless, he admits, "it is incorrect to assume that this approach can be successful without substantial financial support." Originally the budget request was $10,400 for a three-month period of proposal preparation. Following that, it was estimated that for a "lean" eight-month effort "directed toward the mobilization of people, programs and facilities which are already committed to related activities," a modest budget of $46,200 would suffice. Entering the phase of pilot projects (1 September 1973-30 June 1974), however, estimates for operationalizing the Washington 2000 Project soar to $200,000. Commencing with statewide implementation on 1 July 1974, and "By drawing our content from the research of other organizations, working through existing citizen groupings and tying into developing communications networks, we estimate that the Washington 2000 Project could be operated for $250,000 a year" (p. 21).

"In summary, the dominant needs in American society and for this state are first, articulation of directions which provide goals from which our leaders can formulate policy; second, develop mechanisms by which citizens can participate in decisions which shape their future; and third, utilize effectively a statewide communications network to have citizens and decision makers enter into a dialogue over future issues and options." Washington 2000 is a bold proposal for meeting those needs.

Seattle 2000

While the "2000 idea" has exercised imaginations mainly on the world and state levels, its validity extends to the local community as well. That is "the world" for most people most of the time. Any state 2000 project failing to reach them "where they live" would fail the test of "anticipatory democracy" set by Toffler. It follows that state 2000s must be disaggregated to the level of the local community, neighborhoods in the case of urban communities. Seattle has taken a significant lead in this direction.

> A Seattle 2000 Commission has recently been created by the City Council and the Mayor, with the mandate to draw up long-range goals for the city to the year 2000. These goals will serve as policy guidelines and form the basis of a new city-wide plan to be complete by May 1973. The guiding principle of Seattle 2000 is to have as broad a citizen involvement in the formulation of goals as possible. In that regard the Commission has invited over 500 citizen groups and organizations to participate, and stipulated that any citizen regardless of affiliation can join.
>
> To marshall the available resources and organize this effort, task forces have been designated in the areas of: Land Use and Environment, Public Facilities and Utilities, Urban Design, Transportation, Housing, Law and Justice, Human Resources and Services, Education, The Arts, and Recreation. These task forces will propose detailed goals and objectives.

From its inception Seattle 2000 has developed in parallel with Washington 2000. Reciprocity between the two is a salutary example for other states and their communities.

We have now reviewed the three most complete and best conceived plans for state action in and for the future. What can we learn from them in designing our own futures?

ORGANIZING THE "YEAR 2000 IDEA"

In forming the organizational structure to express and support the Year 2000 idea, the experience of California, Hawaii and Washington suggests this general pattern:

1. Initiative on the part of a few individuals or groups, given encouragement and endorsement by the state governor or representatives of his office.
2. The calling of a preliminary conference to plan development of the state 2000 idea, possibly including at this stage the creation of a number of specialized task forces--in education, environmental protection, economic development, health, public safety and other areas of futures interest.
3. A state "Commission on the Year 2000" formed by executive order and funded by legislative action and private contribution. The work of the Commission devolves on volunteer task forces and also perhaps on a professional Futures Research Institute. In the strong case of California Tomorrow, an official State Planning Council takes the place of a Commission.
4. A "Governor's Conference on the Year 2000" is convened, at which task force reports are received and reviewed. Public attention is focused and citizen participation is encouraged.
5. Flowing from the Conference is a set of recommendations for legislative action on futures-related policies. Concurrently a system of citizen feedback is instituted to arouse and inform public opinion.
6. The legislature acts in accord with Conference recommendations as modified by public reaction.

The process can be carried a step farther, to assessing by means of a state indicators system the impacts of policy implementation as measured against goal formulations and determining the adjustments necessary for their proper alignment. This scenario touches on most of the salient points proposed.

Conceptual organization of state 2000s appears less well developed. Generally the strategy is one of estimating the present situation and extrapolating it to the Year 2000. Comparison is then made between that unpalatable future prospect and the desirable future, and policies are offered for changing one trajectory to the other. Although situations and futures tend to be underanalyzed, with verbal gestures towards "systems analysis," "socio-economic indicators" and whatnot, the organizational problems are themselves imposing enough. How to care for the future remains a matter not only of commanding social intelligence but also of securing popular allegiance. The response to MASSACHUSETTS TOMORROW illustrates this difficulty.

Almost as interesting as the plan itself was one reaction to the Boston "launch meeting" in December. The Boston Phoenix reporter, Jerry Rosenwaike (1972), attacked the plan as reformist, where revolution was needed, as elitist and not participatory, and as dwelling on the indefinite future in malign neglect of clear and present needs. In fact, MASSACHUSETTS TOMORROW'S proposal is a decided improvement over California with regard to community involvement; it is emphatic in demanding social justice for the disadvantaged. This kind of skepticism, or cynicism, is fully expectable. Nothing better illustrates the problem, not just of anticipatory democracy for the future but of participatory democracy in the present. For many, the future is preempted and its possibilities foreclosed. Solving that is the problem of a democratic society, present and future.

The Rhode Island 2000 Project

The originating idea for a Rhode Island 2000 Project came from our contact with the ideas and integrities of R. Buckminster Fuller. Earthrise as an organization takes its departure and direction from his inspiration and example. Our overriding goal has been to expand and apply his World Game philosophy as a method for inventing the future. At the same time, we felt the futures interest needed grounding in direct action closer to home. We felt the need for local contact and local support. Where better to begin our journey towards the Year 2000 than in our own State of Rhode Island?

How shall we proceed? One way of getting into the future is simply by doing nothing; the future will take care of itself. But we wonder--how will Rhode Island look in the Year 2000 if it continues on its present course? Will it be the "Rhode Island 2000" we want for ourselves and our children? If not, what must be done to alter that future state of affairs, and how can we begin to act in the present? We are seeking answers to these vital questions.

Acting in and for the future depends on having a plan of action. That plan, in turn, depends on having an idea where we're heading, how to get there, and what our progress is along the way. The Rhode Island 2000 Project is conceived as one suggestion to guide our path towards the future. As we envision it, "Rhode Island 2000" will have five main features:

1. The Rhode Island Model will tell us "how the world works" on the state level, and what the preferred future states of the state are and what the alternative means for achieving them.
2. The Rhode Island Game will be a "delivery system" for the Model, providing access to its workings through citizen participation in playing the game, and also generating information based on player choices that will make the Model operate and cause it to change.
3. The Rhode Island Poll will resemble the kind of public opinion polling now conducted before state and national elections, but with emphasis on continuously sampling a wider range of issues and options (pinpointed in the Model) and thus furnish a broader base of public interest and information.
4. The Rhode Island State Indicators System will gather and collate information from game play and opinion polling, as well as official statistics bearing on the quality of life in the state, as gauges of progress towards achieving Model goals.
5. Rhode Island Design Systems will package and present the preceding features through the design of educational materials for all age groups, portable exhibits for display around the state, and content for dissemination through mass media channels; the emphasis here will be on communicating the purpose and progress of the entire Rhode Island 2000 Project.

Briefly then, the Model will describe the current "state of the state" and predict its future along alternate routes. The Game will provide citizen access to the Model's workings, and also checks on its accurracy and corrections to its assumptions. The Poll will expose wider audiences to the issues and options available now and in the future, and will relay back to the Model their wishes and choices. The Indicators will tell us how well we are progressing towards the attainment of future goals, and where we

are falling short. Finally, the Design will interpret and exhibit these features to the public and facilitate their involvement and participation based on such awareness.

These five activities are mutually supporting. Together they form a whole, the proper operation of any part of which depends on the rest (Fig. 10). These features and their interconnections will be described each in turn.

RHODE ISLAND 2000 PROJECT

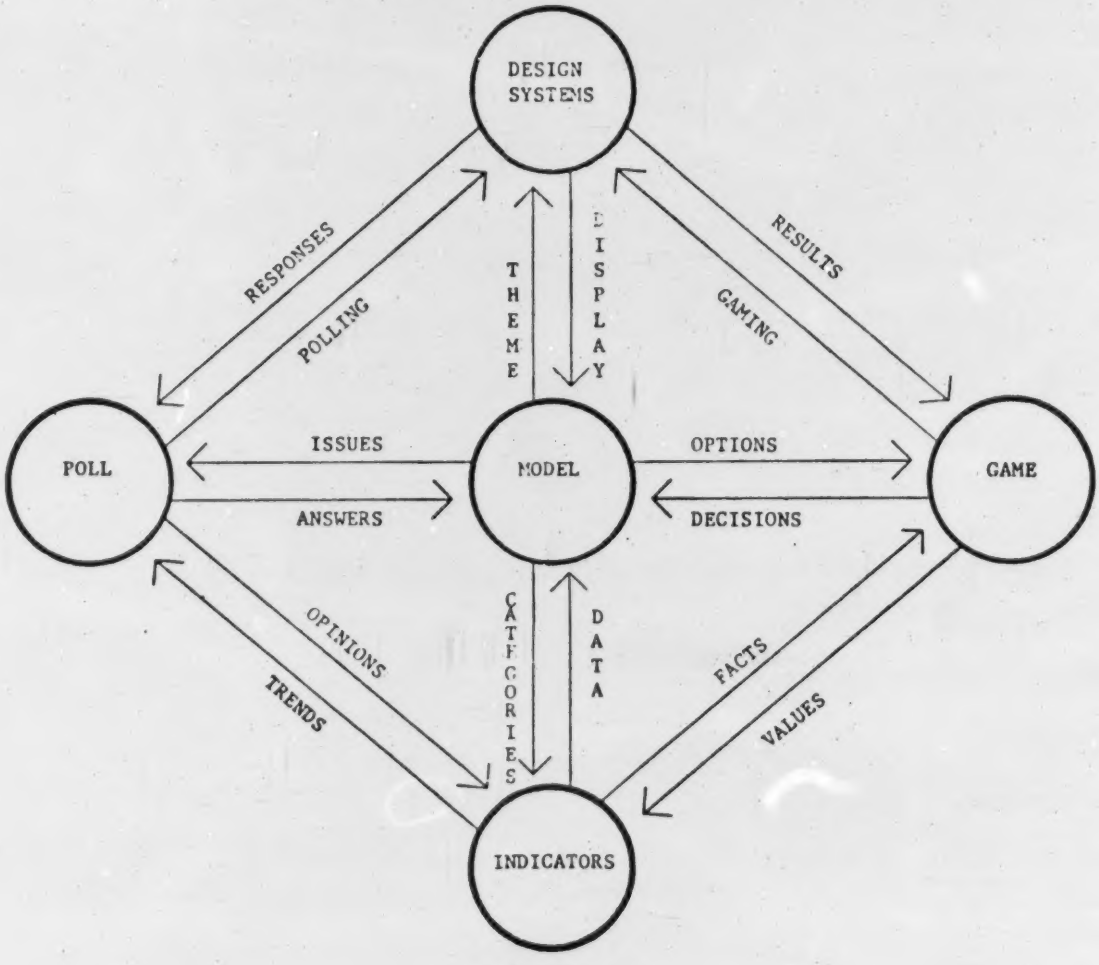


Fig. 10

1. THE RHODE ISLAND MODEL

A model is an abstraction from the real world; a road map is a model in this sense. But a road map does not tell you where you want to go, only how to get there once the destination is fixed. A model is also a simplification; a map with a scale of 1:1 would be useless, as would be one that omits too much detail. The trick is being "just complicated enough." In general, then, the purpose of models is to show, concisely and simply, the way things are and the way they work.

One type of model shows things as they are, another how they must be altered to become what we want them to be. Both these types, the "descriptive" and "normative," enter into building the Rhode Island Model. We want to know how the state works, and how it must change (or be changed) in order for it to work better in the future. In different terms, it must include a "system model" of what is, a "goal model" of what ought to be, and a "change model" for transforming the one into the other.

Our future in Rhode Island will in large part be a world future. Learning how the state works depends as well on learning how the world works; making the state's future work better depends on making the world work better. For this reason Earthrise is also engaged in intensive research on world modeling. We are constructing an Earthrise World Model using techniques of systems analysis, matrix analysis, scenario building and resource inventory. We have identified thirteen functional areas of the world system, called "scenarios." Together they sketch out a picture of the world in its essential features. Filling in the necessary detail requires measuring the present amounts of each--world health and world housing, for two--and projecting them into the future. These present distributions and future trends in turn must be measured against the desirable world future we conceive--the "preferred state." Balancing available means against desired ends then becomes the object of world modeling. The way we go about the business of world modeling thus follows along three main lines:

1. Preferred state: defining the desired goal answers the criterion problem of what constitutes "success" in each scenario.
2. Resource inventory: an enumeration of what "counts" as means to the attainment of the stated goal and what the availability of such means is in the world present and may be in the world future.
3. Strategy: weighing the alternatives by which resources can be combined to achieve the preferred state.

Since it is a system model, we also need to know the interactions or "cross-impacts" among all the scenarios. Because of the complexity of keeping account of all the information and interactions, the World Model we are constructing must be a computer model. Given this model and our knowledge of its inner workings, we are in a position to make some "right" simplifications in format (a playable board game such as the "World Game Game" for instance) and in content (such as scaling down the model to the dimensions of Rhode Island) without losing the context of the whole.

Since the world system is composed of many levels, we intend to "build down" from the World Model to the Rhode Island Model at the same time we are building up from the state level by similar methods. Discovering the world future and inventing a better one parallels our effort in

the state. Although system levels are linked together all the way from the world community to the local community, and experience gained on one is transferable to another, the world works differently on different levels as well (which is why we recognize them as different in the first place). Hence although our thirteen scenarios may adequately describe both the state and the world, we can expect them to show differences in contents and amounts of each.

What the Earthrise World Model or the Rhode Island Model will look like when complete cannot be accurately foretold. As always, model building will be a process of trial and error. A first approximation to world modeling is the much-discussed "World 2" model in Jay Forrester's World Dynamics (1971) (Fig.11). Complex as it appears, one major criticism leveled at his construction is that it is not complicated enough. For example, Thomas Naylor (1972: 366) charges him with neglect of social, political and educational factors and effects.* Naylor's basic conceptualization of the world system forms this outline (Fig. 12):

Fig. 12 A CONCEPTUAL FRAMEWORK FOR A MODEL OF THE WORLD

Taking Naylor's revision for purposes of illustration, we can specify his major categories for the state level as follows (Fig.13):

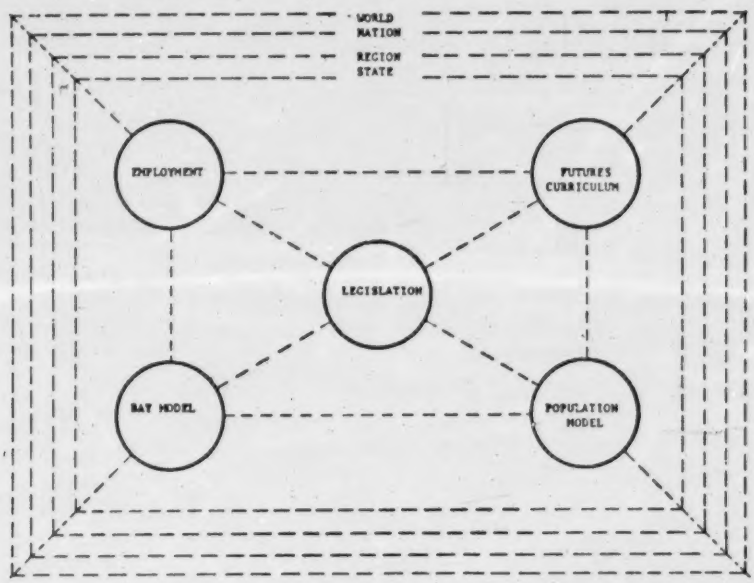


Fig. 13 Specification of Naylor's Conceptual Framework

This will do well enough to suggest the main outlines of system models on both world and state levels; filling in the necessary detail is a matter for further development in conceptual framework, estimation of parameters, data collection and analysis, and model validation. These subordinate tasks enter at many points in the Project.

Once we have a working model, one that informs us how the world works on the Rhode Island level and will work in the future if present trends continue, we want something better: ways of making that world work better. To be useful our Model must be a change model, showing the consequences of taking one course of action as against another. Simulation models such as Forrester's "World 2" permit us to test policy alternatives and assess their likely consequences. Within and without such models are hidden assumptions as to what is desirable change. Modeling brings out goals we already hold but leave unstated. Also it prompts us to change our goals as we examine how they work or fail to work in actual practice. Conversely, modeling can direct us to changes that will bring the future into conformity with our goals. It allows for--indeed, enforces--this kind of interaction.

If not already evident, it should be clearly stated that modeling on the state level is thus far exceedingly primitive. The California Two projection is mostly a word picture--a "verbal model." While a great deal is known in details about California today, nowhere has it been pulled together in a unified and coherent body. The California State Plan would in time come to constitute such a model; presently it is a convenient fiction. Work of the World Simulation Organization in constructing a CAL 1 Model has scarcely begun. Nor is the picture brighter elsewhere; all the plans reviewed fail in close analysis.

Rhode Island is more fortunate; the Providence SMSA (Standard Metropolitan Statistical Area) is a fair approximation of the whole state, exclusive of Newport and Westerly. A highly sophisticated Forrester-type model for Providence has for some time been undergoing development in Brown University's Urban Analysis Group. By extension, it can easily comprehend the surrounding countryside and suburbs, and further by aggregation the entire United States "as a group of metropolitan areas" (see Kadanoff, n.d.; Chinitz and others, n.d.; Kadanoff 1972). This important development locally might well serve as a strategic point of departure for building and refining a working Rhode Island Model.

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*Earthrise has underway a detailed examination and critique of this attempt at world modeling, The Limits to Growth Debate.

2. THE RHODE ISLAND GAME

Throughout this report a great deal of stress has fallen on "participation" as a condition of and for anticipatory democracy. What is not so apparent is how such participation can be enlisted or effectively utilized in inventing and deciding alternative futures. A primary mode of citizen participation is here conceived to be that of simulation gaming. It provides an incentive for participation and a structure within which participation becomes meaningful. At the same time, the interactive nature of simulation gaming prevents this structure from becoming rigid; the outcomes of participation in this mode can be consequential for planning and promoting change.

The idea of a "Rhode Island Game" was evolved in the winter of 1971-72. In a memorandum to the Urban Observatory of Rhode Island, C. P. Wolf (1971) rhetorically asked, "What is 'the game'?" In answer,

> "The Rhode Island Game" is conceived to be a family of simulation games and computer simulations for modeling the present "state of the state" and projecting its future. There are two different levels of activity, "games" such as might be packaged and played like "Monopoly," and "gaming," the abstract and quantitative representation of game players' options and decisions.
>
> "Family unity" between these levels is a two-way process. On one side, game design might be worked out as a simplication of computer models. For example, a block diagram of computer logic might be converted into a board design through which players' "moves" are programmed. On the other side, actual game play affords the opportunity for validating assumptions made in the computer model as to players' behavior.
>
> The highest level of interaction possible would be a "real time, on line" operation taking computer input and giving output from and to actual player groups in continuous session. In working toward this objective we will need to develop a social reporting system for compiling and updating state indicators, such as the one proposed for the State of Michigan. The key indicators will form integral parts of the abstract model.

The indispensability of an indicators system was further argued by Delany (1972); we will return to it in a later section. Meanwhile, a second question was posed as to the object of the game. Two replies were offered:

> Public information. Simulation gaming is an effective "delivery system" for the dissemination of public information. Its effectiveness derives partly from the involvement of audiences in the process of receiving information.
>
> Citizen participation. Activating citizens to take a participant role in understanding their present conditions of life and in shaping their future towards desired goals is a dual purpose. Future-orientation implies a mechanism for gaining broad consensus on values and means for achieving them. Since guiding progress towards future goal attainment must proceed from present-day conditions, an initial problem is determining what *is* the "state of the state" and what *is* the system on whose performance such future direction will depend.

The Urban Observatory's proposal for "The Rhode Island Community Information System" (1972) included many of these idea:

> The RHODE ISLAND COMMUNITY INFORMATION SYSTEM is a unique and original experiment in societal information gathering, social systems mapping, community involvement in public policy making and long-range planning.
>
> The project is based on a new research and teaching technique--simulation gaming. The popularity of simulation games within the business and education fields has grown widely during the past several years and numerous efforts are now underway to employ straight computer simulation in urban systems research. However, the COMMUNITY INFORMATION SYSTEM is the first program to introduce simulation games into a community on a long-run basis for the expressed purposes of increasing the role of the individual in his understanding of community problems.
>
> The COMMUNITY INFORMATION SYSTEM is also the first application of simulation games as a mechanism for making up-to-date societal information available to both community planners and the general citizenry in a format that communicates facts and ideas in an understandable and dynamic manner. Through gaming the active participation of the local population will be elicited with the expressed purpose of establishing new channels of communication between the planners and the public. These communication ties will be used to explore public policy questions for second- and third-order consequences that may have been overlooked during the pre-implementation phases of program development. New constituencies outside of the traditionally formal and informal power structures may emerge and will be given a voice in the affairs of their community via the gaming process. An "ecology of games" will be developed as the system grows in breadth and complexity. Once an informational base has been established and the citizens become aware of the complexities involved in future planning, the gaming process will become a vehicle to educate the population on various policy alternatives and to communicate to the professional planners the feelings and attitudes of the citizenry. (pp. 1-2)

These ideas are as yet unapplied. The overall conception retains its validity, however:

> The game system explains and makes operational ideas about planning, and then disseminates alternative positions by interactive feedback. Moreover, the various options are presented in a value context that extends beyond simple cost-benefit analysis. Individual and group objectives are made explicit in alternative strategies during game runs. All players have an opportunity to express their desires and concerns about their community. (p. 5)

Who are the players? In broad intent, they embrace the citizenry at large. Specialized audiences can further be targeted not only for ease of accessibility (as in the case of school children) or strategic position (as in the case of state legislators) but also for specialized interests, such as housing, medical services, transportation, economic development, conservation and recreation (Wolf 1971: 2).

A few examples will make these points clearer. While the Rhode Island Game we are designing is state-wide in scope, one specialized treatment of it

might deal with state policies, as does the STAPOL game the Institute for the Future invented for the State of Connecticut. Objects of the game were:

> To identify possible futures for the State of Connecticut in the light of external (world and national) societal and technological developments;
>
> To test the sensitivity of these futures to changes in the state policy reflected in alternative action programs;
>
> To identify the behavior patterns of involved groups in assessing and reaction to societal conditions;
>
> To develop an educational tool that can be of value in promoting a better understanding of social problems and their relation to vested interests and external influences; and
>
> To determine the kind of information that is most useful to planners. (Ezner and others 1969: 5)

Despite the complexity of the Connecticut game (Fig. 14), and its reported failure to provide a significant forecast of the future conditions of the state or detailed insights into the effects of alternative policies (p. 4),

STAPOL Flow Chart

The STAPOL flow chart from the Institute for the Future, Menlo Park, California, removed to conform with copyright law.

**Unnecessary in Round I

Fig. 14

there is no doubting its heuristic value or future potential. The designers' use of Delphi techniques and social indicators is particularly suggestive. The STAPOL design is soundly conceived, carefully developed and broadly applicable.

Other games, such as the computer-assisted APEX (Air Pollution Exercise), are likewise adaptable to local areas, issues and audiences. APEX was based on Lansing, Michigan for the decade 1950-59; we can convert it to Providence 1960-69 and project it ahead to the Year 2000. Similarly, commercially available games such as CLUG (Community Land Use Game), patterned on an idealized model of community development, can be adapted to such public issues in the life of our state as coastal resourceddevelopment and I-84. In any case our treatment must refer back to the basic Model and reinforce it through the actual experience of game play, whether board or computer.

Simulation gaming is thus a method not only of explaining the Model; it is also useful in furnishing information--"inputs"--into the Model which affect its structure and operation. The Rhode Island Game is a kind of "delivery system" for the Rhode Island Model, intended both to make the Model accessible to all people in our state and to gain their active participation in shaping a desirable future.

As stated above, we contemplate two levels of gaming, a computer game and a board game. On the computer level "players" interact with the computer program by making choices based on computer-generated information, and through their choices determine the further course of the game. Players may interact singly, as individuals, or they may form teams and discuss and decide options in a time-sharing configuration. The results of computer game play can then be analyzed and compared against Model predictions, and the Model altered to reflect their choices. In this way the computer becomes a working partner in selecting alternative futures. The PLATO system (Umpleby and Briggs 1970; Umpleby 1970; Umpleby 1971) illustrates such a computer application; its use in creating "electronic town meetings" preserves traditional values by means of advanced technology.

PLATO is an acronym for "Programmed Logic for Automated Teaching Operations." It is described as "a computer-based exploration of alternative futures" and in fact is a computerized version of the FUTURE game devised by Olaf Helmer and Theodore Gordon for Kaiser Aluminum. The players of PLATO are "explorers" who plumb the future by a "Delphi exploration." Players are presented with computer-generated visual displays containing information about present trends, future possibilities and cross-impacts. After making decisions they are given immediate feedback of the consequences of their choices (Fig. 15). Through this device Umpleby (1970: 361) believes that the opportunity and importance of citizen (not just expert) participation in forecasting,and policy decisions based on such forecasts, can be enhanced:

> The growth of the planning function of government raises the question of how planning can be accomplished by democratic means. A new technological device--the teaching computer--seems to be ideally suited for discussions between "experts" and the public on issues of medium and long-range planning. The teaching computer can be thought of as a mass communications system with feedback.

The PLATO displays from the World Future Society, published in The Futurist, have been removed to conform to copyright law.

Fig. 15. Sample PLATO Displays

Although computer facilities can be greatly expanded through the use of remote terminals, similar benefits accrue by use of non-computer treatments of the Rhode Island Model. In particular, the computer model can be reduced to a set of rules to guide a series of "moves" in board game play. Computer data and computations can be simplified by the design of appropriate playing aids. A good example of the relationship between computer and board models is that between APEX and SMOG, the former a highly sophisticated, computer-assisted game, the latter an easily understandable and readily playable board game. Our intention is to deploy the Rhode Island Model as both a computer-interaction and a board game, thereby enlarging its potential audience. Translating between the two levels will be an ongoing concern and an opportunity for establishing contact between players and planners.

3. THE RHODE ISLAND POLL

One difficulty with gaming, the limitation on numbers of people involved, can be overcome through the use of public opinion polls. Like the present Rhode Island Poll, opinion polling normally solicits voter preferences on political candidates and issues around election time. The kind of polling actually needed is continuous and offers choices on a wide range of public issues affecting the future of our state. A sample ballot of such future issues and options is found in Fig. 16 . Like "moves" in game play, citizen opinions should add information to the basic Model. What the right questions to ask are will be a product of the Model. The interplay of issues and responses gauges the public acceptability of policy alternatives in a way scarcely touched by current opinion polling techniques.

A type of opinion polling specifically addressed to future issues and options is the "Delphi technique." In classical antiquity, the Oracle of Delphi was renowned for its paradoxical prophesies and equivocal advice. These led to the downfall of many a hero and king, as recounted in myth and legend, and the Oracle itself now stands in ruin. This is a forcible reminder that like its namesake the Delphi technique is not infallible or invincible. It is a useful and much-used tool for forecasting, however, and worth our understanding of its virtues as well as its vices.

The Delphi technique is a mail questionnaire for soliciting expert opinion on the probability and/or desirability of future events occurring. Usually it is repeated in successive rounds to clarify questions, sharpen issues and achieve expert consensus. Respondents are anonymous and their judgments independent, but they are given "feedback" on how the weight of expert opinion distributes and asked for reasons in support of estimates that fall outside the normal reange.

A typical questionnaire asks respondents to rate the probability of an event--a technological innovation, say--occurring by a certain date. Further refinements are to request 10%, 50% and 90% probability estimates of occurrence. A "polygon" is then drawn to summarize graphically the distribution of responses. The importance to society of the event's occurring may also be requested, or the consequences of occurrence for established institutions and values (e.g. the effect of extraterrestrial intelligence being discovered on religious belief). In addition, the "cross-impacts" on related events may be judged and possible consequences on their probabilities of occurring in the future estimated. The sample may be broadened to include nonexperts, and their responses compared to those of experts. This extension is clearly implied in the concept of "anticipatory democracy."

The Delphi technique has been employed by the Institute for the Future to assess issues and opportunities in the State of Connecticut for the years 1970-2000 (Helmer and others 1969; Enzer and de Brigard 1970). In the first round of the Connecticut Delphi Study experts in the state were given basic statistics on world, national and state trends and asked to agree on forecasts of major issues and opportunities for Connecticut. In the second

Sample Ballot of Future Issues and Options		TRENDS Little, Dennis L. and Gordon, Theodore. "Some Trends Likely to Affect American Society in the Next Several Decades," Institute for the Future, Middletown, Connecticut, April 1971.
1 Probable	☐	1. Education will start earlier and continue longer than at present, with less sharply defined natural terminal points.
2 Desirable	☐	
3 Probable	☐	2. Techniques will be developed which permit useful exploitation of the ocean through agricultural farming.
4 Desirable	☐	
5 Probable	☐	3. Regional high-speed transportation systems will be widely used.
6 Desirable	☐	
7 Probable	☐	4. Simple, cheap, and long-lasting birth control techniques will be available.
8 Desirable	☐	
9 Probable	☐	5. Nuclear fusion becomes a reality, producing an unlimited supply of low cost energy.
10 Desirable	☐	
11 Probable	☐	6. The high cost of housing will result in greater use of mobile homes as permanent residences.
12 Desirable	☐	
13 Probable	☐	7. Guaranteed income plans will cover a large share of the population not in the work force.
14 Desirable	☐	

Fig. 16.

they were given results from the previous round and asked to agree on issues of importance, the likelihood of their occurring by the year 2000 and possibly desirable actions for meeting them. In the final round agreement was sought on the desirability of actions proposed and respondents were asked to identify the difficulties associated with implementing highly desirable but improbable actions (Enzer and de Brigard 1970: 60). In this manner possible futures for Connecticut in the Year 2000 were treated for the areas of urbanization, family structure, economy, education, health, food and population, international relations, law and order, leisure, government and political structure, divisions in society, values and mores, and science and technology. The results of the Connecticut Delphi Study were then employed as the content for STAPOL.

We recently tried out this technique in highly abbreviated format in a Futures Education Workshop conducted by Earthrise for the Rhode Island State Department of Education. On that occasion we asked leading educators and laymen in the state a series of questions about probable and desirable futures for the state, nation and world. Most agreed that "free higher education made available to all" would be highly probable and desirable by the Year 2000, and that "large cities are abandoned as unmanageable and unlivable" was highly improbable and undesirable. Less than half the respondents thought the prospect likely that "Rhode Island becomes a city-state" but opinion was evenly divided as to the desirability of such a future event taking place.

The Delphi technique has been employed using mostly experts in various areas, but the inclusion of the general public may assist in closing the gap between people and planners. Opinion polling can be useful in building consensus on questions of public policy in the present and in formulating goals for the future. Beyond that lie techniques which combine polling and gaming in order to arrive at policy and goal consensus. A powerful method for achieving this effect is PATHWAYS, Stuart Dodd's creation, in which pairs or groups are polled on their opinions on various issues and options and then engage in discussion with the intent to agree on the position representing their best consensus. The PATHWAYS game has been used with many groups for many issues, with consistently successful results.

These are only a few suggestions on how opinion polling can be enlisted in the service of informing the state and guiding its progress into the future.

4. THE RHODE ISLAND STATE INDICATORS SYSTEM

In addition to game play and opinion polling as means for gaining acquaintance with the Model and enriching its content, the most obvious source for building a sound data base is official statistics. A profusion of data is routinely gathered and reported by public agencies, but most of it fails to illuminate our mental pictures of the state, nation and world. The figures simply don't "add up" in any sensible and intelligible fashion. We are now looking for ways to compose them in numerical profiles or statistical portraits that show in high relief the principal features of interest.

What are the basic "facts of life"--the vital statistics--in our state, at present and in future? How can the "state of the state" best be described in quantitative terms? How do worldwide and national trends impact on our lives and how are they reflected in conditions in our state? Does Rhode Island participate in these same trends and to the same extent? Above all, how can we tell if we are making progress towards attaining the goals we set for ourselves now and in the future?

A movement is afoot called the "social indicators movement" which attempts to provide answers to these central questions. It arises in response to the manifest need for

> . . . some system of regular public reports that would provide a well-detailed but comprehensible overview of what is happening in our society. Such overviews would be addressed to a wide variety of people and could perform several critical functions. They would provide reliable information on both the structure and performance of American society, an indication of emerging problems and an assessment of what more and better information is required. This would allow for the overall evaluation of the successes and failures of public action, help define and clarify new problems and perhaps provide some guidance to private and public data gathering and social research efforts.

This quotation is taken from the monograph, Social Reporting in Michigan: Problems and Issues, 1970 (Center for Urban Studies) and constitutes the only source known to us advocating a state-level social indicators system. Only now is a conference being organized to inquire into establishing a "global indicators (information) system." What movement we have seen in the "social indicators movement" has proceeded mainly on the national level. What, in quantitative terms, is the "state of the union"? We propose to amplify this question by indexing the "state of the state" on the same, factual terms. In short, we propose the creation of a Rhode Island State Indicators System.

Fragments of such a system abound--for example, in the "urban observatory" idea. Partial answers to the question of trend-sharing are given in such studies as as Crampton, Reilly and Schwartz, "Some Comparisons of the Providence Area with the Nation--1960" (n.d.) with respect to industrial classification, social stratification and unemployment. The national standard of comparison is commonly found in U.S. Bureau of the Census reports, but future trend data are conspicuously absent, population projections excepted. Especially is this true of disaggregate (state-level) data. Studies such as Rescher's (1969) and compendia of forecasts such as Little and Gordon's (1971) only partly fill this need.

The structure for such a State Indicators System is already implied in the Rhode Island Model. What is required now is that we assemble and assimilate the quantities of official statistics into the Model, as estimates of the Model parameters and values for the Model variables. The Model tells us what facts are relevant; the statistics disclose what the relevant facts are. Certainly the Model requires these data for its own validation--to persuade us of its making effective contact with the "real world." But there is another and larger purpose in recommending development of a Rhode Island State Indicators System.

The primary reason for wanting this System is to inventory the state's resources for meeting the future needs of its citizens, as well as for measuring the actual extent that present-day needs are being met. But again, what "counts" as a resource must be relative to what is stated as a goal. The ultimate aim and value of a State Indicators System is to gauge progress towards achieving the goals we have set for ourselves, now and in the future. Progress reports must then be issued at regular periods, as a matter of public record and public information. Judgments must be rendered, fairly and freely, as to present and future states of the state. Techniques of social reporting, such as "information mapping," must present results and evaluations in credible and legible form.

5. RHODE ISLAND DESIGN SYSTEMS

The Rhode Island Design Systems is concerned with the application of artistic expression and the creative process to social and environmental problems. This feature of the Project is not concerned with Art or Design but the "design arts."

To design is "to plan artistically or skillfully, to conceive of form in the mind, to pattern." The Rhode Island 2000 Project calls for a rational design approach--a systems approach. A system is "an assemblage or combination of things or parts forming a unitary whole." Rhode Island Design Systems will present a holistic view of Rhode Island society in the context of our global community, to communicate new visions of our small state.

Alvin Toffler, author of The Culture Consumers, has stated that "the arts play an important role in integrating individuals into subcultures within the larger society; they act on value systems that accelerate or retard change; and they educate individuals to new role possibilities and styles of life."

The Design Systems will communicate and implement the first four features of the Rhode Island 2000 Project (the Model, Game, Poll and Indicators) to the general public. It is the intent of the Design Systems to make it as easy as possible for the average citizen to understand the goals and operations of the Project. Its purpose is to demystify and simplify the technical aspects of futures studies, such as "systems analysis" or "computer modelling." A picture is worth a thousand words, and an experience is worth ten thousand pictures. The Design Systems will provide the experience of participating in and creating the future of our state.

This participation can be accomplished in a variety of ways, such as portable exhibits, posters and pamphlets, board games, photo commentaries, curriculum materials, slide shows and workshops, radio, television and film documentaries. The Design Systems will also gather information and poll opinions from citizens. For example, a traveling exhibit center can also serve as a polling and gaming center, "getting Rhode Islanders into the future." (See Figs. 17-18.)

A portable and inflatable exhibit center will be the focal attraction of the Rhode Island 2000 Project. It will be designed and built to travel throughout the state to shopping malls, flea markets, factories, schools, libraries, and other public locations. An exhibit center could include a variety of exhibits and demonstrations to show the interrelationships between thirteen societal descriptors (education, environment, technology, resources, population, communication, transportation, health, re-creation, economics, politics, and values):

* "Rhode Island in the World," an exhibit illustrating with satellite photographs and films, world maps and diagrams, how Rhode Island looks in relation to the planet Earth. It will describe how the world affects Rhode Island and how Rhode Island contributes to the world.
* "Rhode Island in the Nation," an exhibit pictorally showing Rhode Island's position in relation to other states geographically, geologically, and historically. The unique ecosystem of Narragansett Bay will be emphasized.
* "Rhode Island in the Region," an exhibit illustrating the similarities and differences between Rhode Island and other New England states historically, commercially, and governmentally.

* "How Rhode Island Works," in the form of a computer game, will be used as an educational tool at the high school and college levels (using the computer facilities across the state). The "players" will come to understand how the state works by manipulating the 13 societal descriptors in "decision rounds" displayed graphically on a TV screen.
* "How Rhode Island Works" in the form of a board game will simplify the computer game so that the average family can "play out" local issues and options.
* "Citizen Poll," a booth in which citizens are asked to identify problems and possible solutions which affect their daily lives, such as "Save the Bay" or "Stop I-84."

The exhibit system itself would be: modular, light weight, flexible, capable of interchanging display contents, easy to assemble without special tools or skills, and transportable in a trailer or station wagon.

To house the exhibits in a protective and identifiable enclosure, an air structure is proposed for reasons of economy, durability, and ease of assembly. An inflatable structure can be assembled without special tools or skills; it will be constructed of durable 12 mill vinyl; it will not be more than 50 ft. in diameter as a hemisphere; and it will be capable of being cooled or heated when used outdoors.

The specifications for the exhibit system and the air structure will be determined by the students and professionals who will design and build them; it could be maintained by the Boy Scounts or another civic group.

To mobilize the resources of students and civic organizations, lectures, workshops, seminars, and conferences will be designed to include multi-media presentations, consensus games, and polling techniques for social clubs, unions, fraternities, religious groups, neighborhood councils, schools, etc.

Future studies will be introduced and integrated into present curricula at all age levels on a state-wide basis. Exercises in futures education will be designed and tested to emphasize problem-solving and decision-making techniques. The emphasis will be placed on <u>how</u> to think rather than <u>what</u> to think.

Local periodicals and newspapers will be especially effective in educating the vast majority of Rhode Islanders about alternative futures. The family board game could easily be distributed as a Sunday supplement or insert in the local newspaper, allowing residents to participate in the future for 50¢. Opinion questionnaires, columns, and feature articles can also be disseminated in this manner.

Photographic documentaries can effectively show the "quality of life" (in both its positive and negative aspects) to illustrate themes such as "where we are now" and "where we are going." These could be distributed in pamphlets, periodicals, and/or the newspapers.

Television programming can be very useful in communicating and continually reinforcing the Project. Community issues and options can be discussed on talk-back shows, TV specials and documentaries, and as public service spots.

The majority of the design work should be done by high school and college students, under the direction of professionals, as a regular part of their curriculum. It is also recommended that any professional design work be done by local firms, preferably as a public service.

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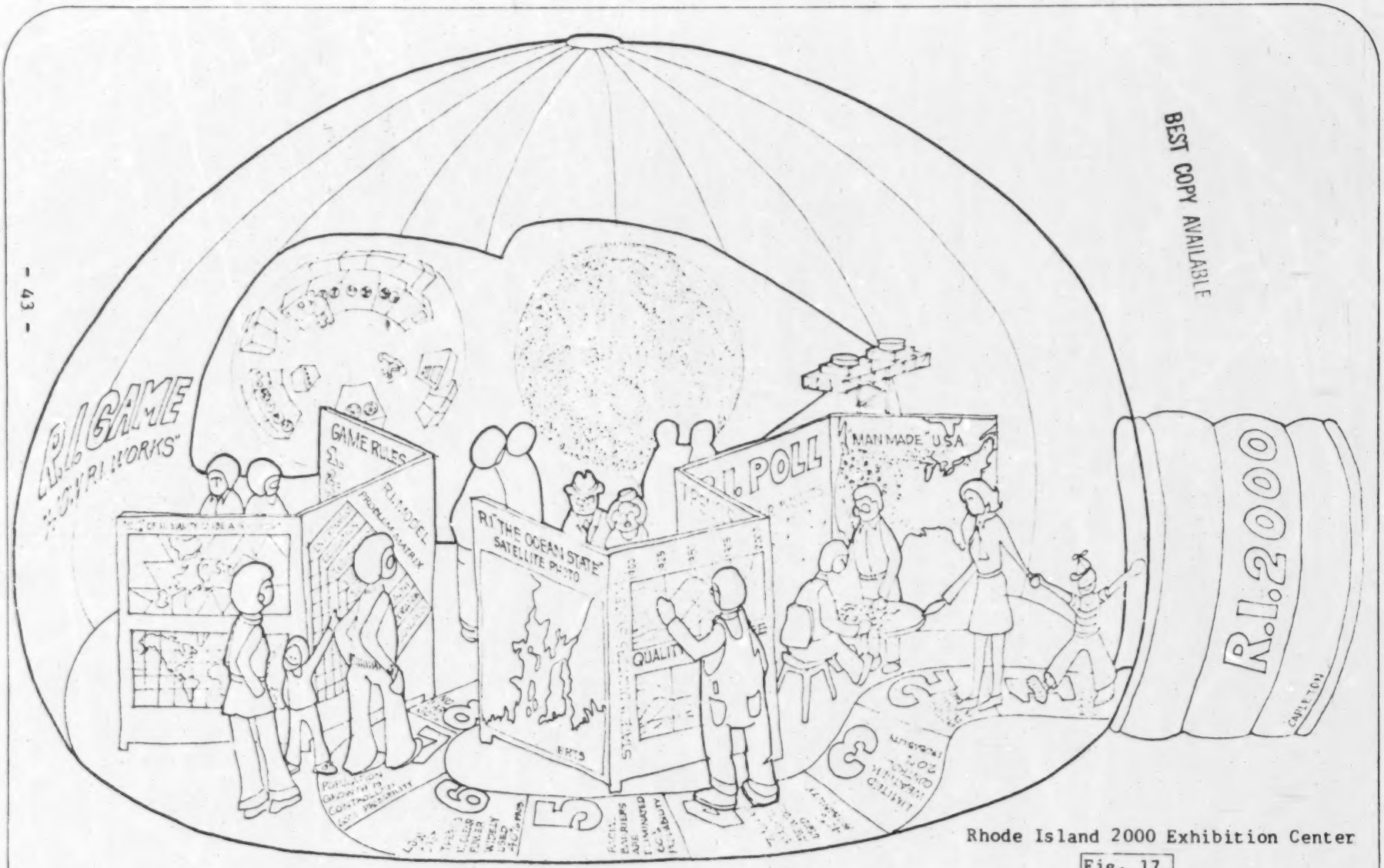
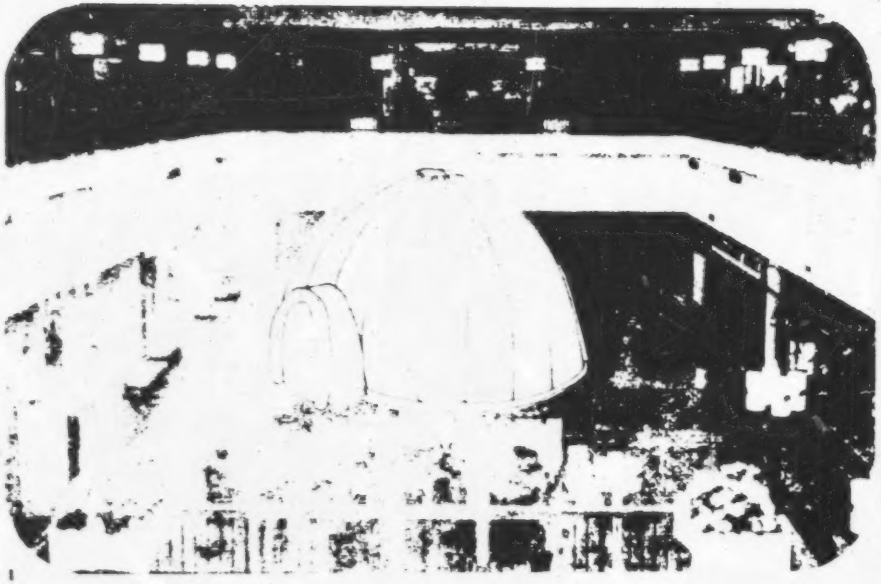


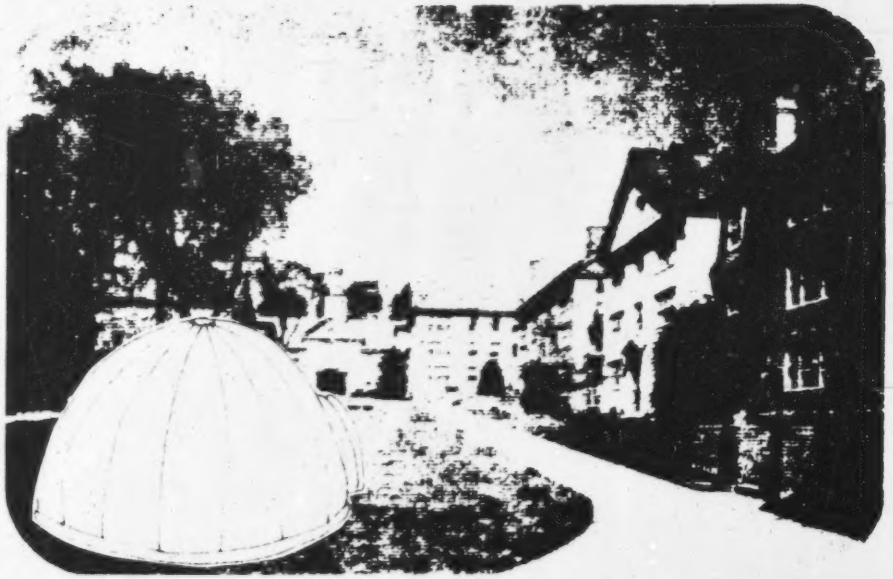
Rhode Island 2000 Exhibition Center

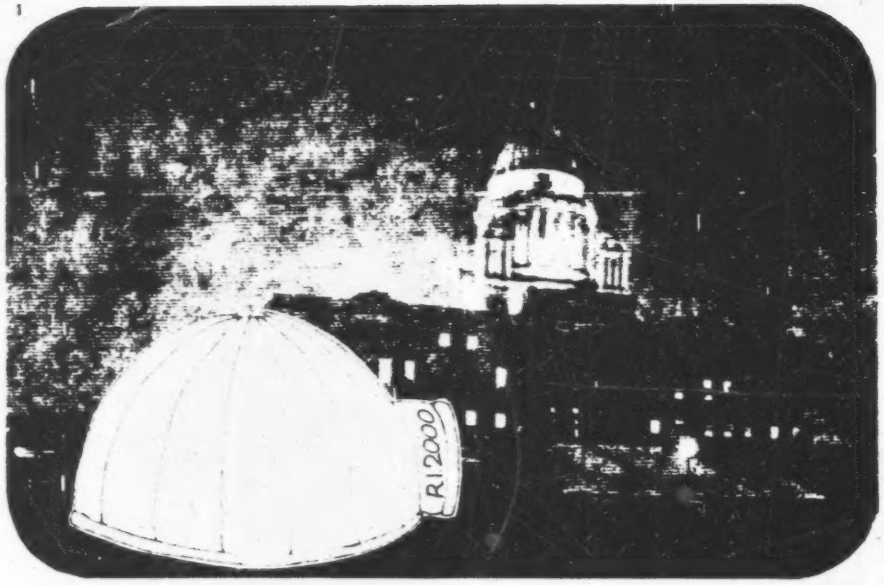
Fig. 17.

A portable air-structure will house a variety of exhibits and demonstrations to educate the public about local social and environmental issues and options. The portable Exhibit Center will travel throughout Rhode Island to shopping malls, factories, schools, libraries and other locations.

Earthrise







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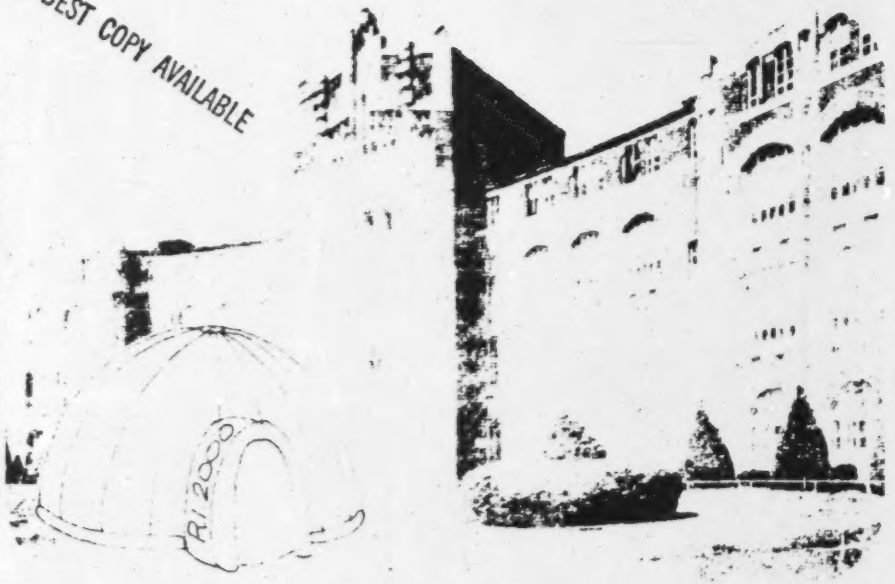

Fig. 18. On the Road with Rhode Island 2000

Appendix 1

THE BICENTENNIAL OCCASION

Our nation was conceived in a revolutionary idea--the vision of a brighter future for our own people and all humanity. Our nation was forged in revolutionary action to achieve that ideal. Our heritage is the future. We are urging that our revolutionary tradition be honored and continued in 1976 as it was in 1776. The revolutionary action we propose is one furthering that revolutionary ideal towards its eventual fulfillment. It is one, as Alvin Toffler has described it, of not only participatory democracy but also anticipatory democracy. "To master change, we shall . . . need both a clarification of important long-range social goals and a democratization of the way in which we arrive at them. And this means nothing less than the next political revolution in the techno-societies--a breath-taking affirmation of popular democracy" (1972: 122).

Futurist Robert Theobald has said the Bicentennial celebration presents "the only currently visible way to demonstrate the problems and possibilities which lie before the American people, and by extension, the people of the world." Like Theobald, we in Earthrise believe that 1976 is the strategic moment for decisively opening the way to the future, even beyond the close of the Bicentennial Era in 1990. Our horizons extend towards the Year 2000.

The Year 2000: nothing we know so well symbolizes the future for millionss across the country and around the world. It is a symbol to attract a younger generation which sometimes repudiates our past even while often acting in its best traditions. Nothing we know can focalize and dramatize so well our dedication to their and our futures. Other states--Hawaii and Washington for two--have previsioned their futures in this same time frame. We propose that Rhode Island join with them in the forward march towards the Year 2000 and that we encourage others to join with us.

The Year 2000 is not only a symbol; it is an ever-nearing reality. The symbol can be given meaningful substance by concrete actions taken now. The Rhode Island Bicentennial Commission is on record as holding, "A nation without goals has no future, and we intend Horizons '76 to be the goal setting part of the Bicentennial Era." Earthrise's concern is with developing means for goal formation, consensus and attainment in our state, nation and world. To achieve that end calls for full citizen participation and community involvement. Making the future visible and accessible is our major aim.

Although the Rhode Island 2000 Project is forward-looking, it is an idea whose time is now. It cannot be accomplished all at once, nor should it be. The future we envision is an open one; choosing alternative futures must remain an open choice. Our proposal is designed not only to impress on ourselves the necessity of choice but also to increase the capacity for choice. At the same time, what choices remain open depends on our acting now to insure freedom of choice in the future. As John McHale observes, "The future of the future is the present."

Appendix 2

Management Plan

The Rhode Island 2000 Project is not a "blueprint" for the future of our state. We see it rather as facilitating the creation of an infrastructure to support and sustain broad concern for and commitment to the future. As such its primary task should be the collecting and coordinating of interests and initiatives from a wide variety of sources within and without the state. At the same time, techniques of futuristics such as technological forecasting require some considerable professional expertise. But part of that expertise--a large part in our estimation--must go into making these techniques available to all of the people.

Since it is an open future we envision, and not a blueprint, the exact means for implementing and managing the Project cannot be predetermined. They must remain open to future decision. Moreover, if we are successful in gaining widespread participation in the Project, that decision will not be ours alone. Using the technique of scenario-building, however, we can project one possible future for Rhode Island 2000.

Scenario One

Scenario One follows closely the precedents of previous efforts on the state level--those of Hawaii and Washington in particular (see Earthrise Document ER-3, "Rhode Island 2000," p. 24; all pages cited below refer to this Document).

1. Initiative on the part of a few individuals or groups, given encouragement and endorsement by the state governor or representatives of his office.

The first initiative for the Rhode Island 2000 Project came from Earthrise, at a public presentation before the Rhode Island Bicentennial Commission on 20 February 1973. This presentation supported our proposal of 31 January 1973 under their "Horizons" program, hence the three-year projection for Project development used through this Plan. At that meeting we asked that the Bicentennial occasion be used as a focal point for the state's making a commitment to its future. We stressed that unless and until such a commitment was undertaken, the Project would have little relevance or significance, thus failing in its purpose. Although the Rhode Island future must be viewed in larger context--that of the world future--for the people of the state and any constructive measures they might take on their own behalf, the future begins at home.

Nevertheless, we perceived too an interest in the Rhode Island future on the part of regional and national organizations, public agencies and private foundations. We have taken steps to acquaint them with our purpose and to gain their support. We believe that a substantial "demonostration effect" can be achieved even on the modest proportions of Rhode Island. Likewise we are seeking further contacts within the state--again both public and private--from the State Department of Community Affairs to Project Rhode Island. We have received an informal expression of interest from the Governor's Office, and will pursue that lead.

2. The calling of a preliminary conference to plan development of the state 2000 idea, possibly including at this stage the creation of a number of specialized task forces--in education, environmental protection, economic development, health, public safety and other areas of futures interest.

Following the script, our next step would be the appointment of an advisory committee representative of the state to plan a preliminary "Governor's Conference on the Year 2000," or, more emphatically, the outright establishment of a Governor's "Commission on the Year 2000" (or "Rhode Island 2000 Commission") to carry on this planning. In the case of Rhode Island, general lack of familiarity with the Year 2000 idea and its implications for the state argue the former course.

3. A state "Commission on the Year 2000" formed by executive order and funded by legislative action and private contribution. The work of the Commission devolves on volunteer task forces and also perhaps on a professional Futures Research Institute. In the strong case of California Tomorrow, an official State Planning Council takes the place of a Commission.

In the previous experience of Hawaii and Washington, progress to this point has extended over roughly two years of planning and consultation. MASSACHUSETTS TOMORROW's time line somewhat accelerates the process (see Time Frame below). The script then calls for:

4. A "Governor's Conference on the Year 2000" is convened, at which task force reports are received and reviewed. Public attention is focused and citizen participation is encouraged.

5. Flowing from the Conference is a set of recommendations for legislative action on futures-related policies. Concurrently a system of citizen feedback is instituted to arouse and inform public opinion.

6. The legislature acts in accord with Conference recommendations as modified by public reaction.

7. Assessment by means of a state indicators system of the impacts of policy implementation as measured against goal objectives and further recommendations for corrective action.

Schematically, the organizing effort may be seen as following this path.

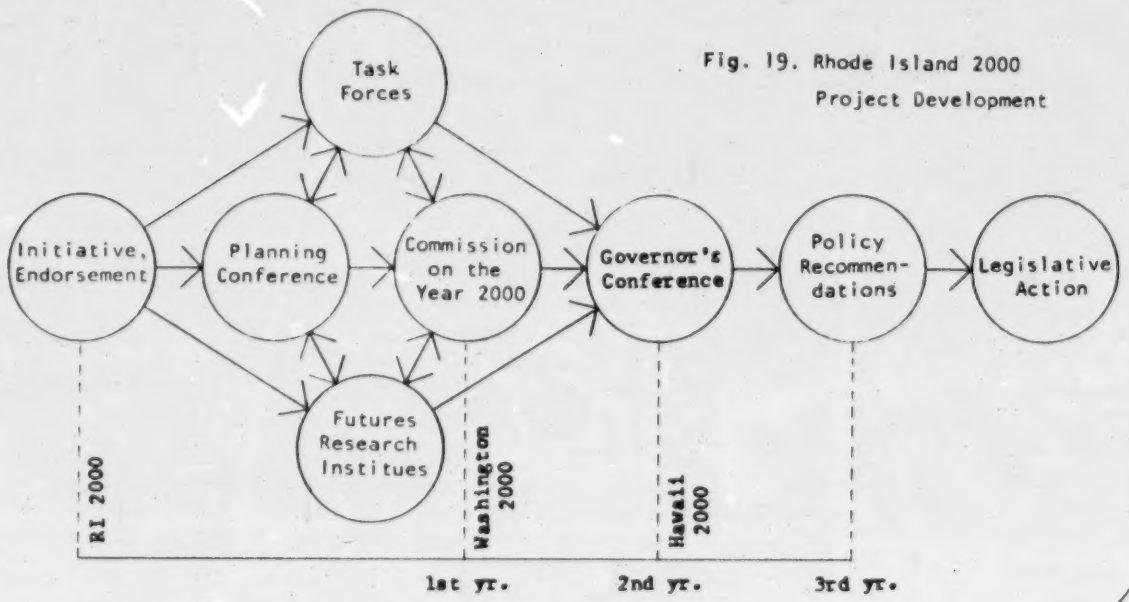

Fig. 19. Rhode Island 2000 Project Development

Management Cycle

We recognize that the work of the first year of funding will consist largely in finding out how to organize and manage the Rhode Island 2000 Project--in establishing and monitoring the mechanisms by which the Project and its various parts can become operative and functional. To facilitate this process we have devised some planning techniques summed up in a "management cycle." The cyclical nature of Project planning is particularly important in order to process and incorporate suggestions for improving Project development--in a word, "feedback." The management cycle flows through seven interrelated steps:

1. Project goals: as stated above, there are three primary goals of the Rhode Island 2000 Project--research, education and action. The last of these refers presently to implementation of the Project itself, not to implementation of Project results in terms of public policy formation, legislative action, and the like. All five of the main features of the Project (Model, Game, Poll, Indicators, Design) fall under these three headings, though perhaps some more under one than another (e.g., the Model might be viewed as principally a research goal).
2. Needs assessment: in this category we are seeking means for goal attainment--what "counts" as a resource for Project mobilization to serve its aims. We have identified these resource needs in two general areas, each of two parts: (1) "who"--people and organizations, and (2) "what"--knowledge and skills.
3. Resource inventory: the availability of resources as measured against the Project's assessed needs is our concern at this stage. While not limiting ourselves to resources immediately available within the state, the underlying philosophy of the Project argues for building up capabilities in close relation to the needs and people served.
4. Resource creation: it is expectable that certain needed resources will not be readily available and that actions must be directed towards their creation. Providing these capabilities and competencies for ourselves is itself a major benefit to be derived from the Project.
5. Resource allocation: matching available and created resources with assessed needs is the management problem here.
6. Resource management: this is simply the accustomed business of "servicing the contract"--the day-to-day operation of administering the system, balancing its progress, and adjusting its performance to meet goal standards.
7. Evaluation: while evaluation is an ongoing and continuous process in the life of the Project, periodic checks of overall progress towards goal attainment are desirable, both internally and externally by consultants, review boards and the like. The findings of evaluative studies may impinge on any or all of the foregoing steps.

Task Analysis

We are currently applying this planning process to detailed analysis of the major subprojects. Taking the State Indicators System (SIS) by way of illustration, an outline sketch of our thinking on Project development appears in this matrix:

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(Sample) TASK ANALYSIS: STATE INDICATOR SYSTEM Fig. 20.

	GOALS	Research (Program Director)	Education (Community Director)	Action (Design Director)
Subproject Goals ①	Who:	Earthrise management	Public officials, educators, students	Public(?) agency
	What:	System design of SIS	Inform general public on "state of the state"	Maintain SIS on an ongoing basis
Needs Assessment ②	Who:	Earthrise coordination of agencies, consultants, students, etc.	Earthrise coordination of public agencies, community groups	
	What:	Assess data requirements; indicator selection	Informational needs of public and specified community subgroups	
Resource Inventory ③	Who:	Earthrise coordination of consultants, student research	Earthrise coordination	
	What:	Inventory of available data	Present availability to public, community of needed information	
Resource Creation ④	Who:	Earthrise coordination of public agencies, student research	Earthrise coordination of public and private media channels	
	What:	Data gathering; index construction	Periodic "state of the state" report ("The Rhode Island Report")	
Resource Allocation ⑤	Who:	Earthrise allocation, agency cooperation	Earthrise coordination of media traffic	
	What:	Task assignment, budgetary allocations	Dissemination of media content; disbursement of media budget	
Resource Management ⑥	Who:	Earthrise coordination of cooperating agencies and research projects	Earthrise coordination of media groups	
	What:	Data collation and coordination	Audience research and information quality control	
Evaluation ⑦	Who:	Review by Earthrise and outside consultants	Review by Earthrise and outside consultants	
	What:	Data completeness, accuracy, validity	Audience response; public understanding	

Time Line **Fig. 21.**

Using this kind of task analysis, it then becomes possible to sequence out the phases of subproject development; this has been done by quarters for the first year and by year for the succeeding two (within a three-year time frame).

	Model	Game	Poll	Indicators	Design
1st Quarter	Needs assessment and resource inventory				
2nd Quarter	Conceptualization	Computer block diagramming; rule making for board game	Questionnaire item selection	Indicator selection	Coordination of design and media groups (student and professional)
3rd Quarter	Operationalization of concepts; quantification of descriptors	Programming of computer game; board design and pre-testing	Questionnaire construction	Indicator validation	Design and development of exhibits and media presentations
4th Quarter	Preliminary working model	Prototype computer and board games	Pre-testing and pilot survey	Prototype indicator system	Construction of prototype exhibit center; media presentations
2nd Year	Evaluation, pre-testing, field surveys, modifications, data gathering				
3rd Year	Sample surveys, field testing, deployment, data analysis, demonstration				

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